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PROCEEDINGS
OF THE
CONNECTICUT MEDICAL SOCIETY,
1896.

ONE HUNDRED AND FOURTH
ANNUAL CONVENTION,

HELD AT
NEW HAVEN, MAY 27TH AND 28TH.

PUBLISHED BY THE SOCIETY.

N. E. WORDIN, A.M., M.D., SECRETARY,

BRIDGEPORT.

BRIDGEPORT, CONN.:
THE FARMER PUBLISHING COMPANY,
1896.

The Connecticut Medical Society does not hold itself responsible for the opinions contained in any article, unless such opinions are endorsed by special vote.

All communications intended for the Connecticut Medical Society must be addressed to N. E. Wordin, M.D., Bridgeport, Conn.

The next Annual Meeting of the Connecticut Medical Society will be held in Hartford, May 26th and 27th, 1897.

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OFFICERS OF THE SOCIETY.

1896-97.

PRESIDENT.

RIENZI ROBINSON, Danielson.

VICE PRESIDENT.

RALPH S. GOODWIN, Thomaston.

VICE PRESIDENTS, ex-officio.

GEORGE C. JARVIS,
GUSTAVUS ELIOT,
M. W. ROBINSON,
JOHN W. WRIGHT,
FRANK E. GUILD,
ELIAS PRATT,
F. D. EDGERTON,
EDWIN T. DAVIS.

TREASURER.

W. W. KNIGHT.

SECRETARY.

N. E. WORDIN.

ASSISTANT SECRETARY.

JULIAN LAPIERRE.

COMMITTEE ON MATTERS OF PROFESSIONAL INTEREST IN THE STATE.

LEONARD B. ALMY, JOHN C. KENDALL,
CHARLES J. FOOTE.

STANDING COMMITTEES.

Committee to Nominate Physicians to the Retreat for the Insane.

HENRY DOUTTEIL, M.D., HORACE S. FULLER, M.D.,
FRANCIS L. DICKINSON, M.D., O. J. D. HUGHES, M.D.,
GEO. L. PORTER, M.D.

Committee on Legislation.

M. STORRS, M.D., F. BACON, M.D.,
L. S. PADDOCK, M.D., E. F. PARSONS, M.D.,
N. E. WORDIN, M.D.

E. J. MCKNIGHT, M.D., Hartford County.
O. J. D. HUGHES, M.D., New Haven County.
F. N. BRAMAN, M.D., New London County.
J. W. WRIGHT, M.D., Fairfield County.
J. B. KENT, M.D., Windham County.
R. S. GOODWIN, M.D., Litchfield County.
FRANK K. HALLOCK, M.D., Middlesex County.
C. B. NEWTON, M.D., Tolland County.

On Medical Examination.

JOHN W. WRIGHT, M.D., J. FRANCIS CALEF, M.D.,
LEONARD B. ALMY, M.D., MAX MAILHOUSE, M.D.,
HORACE S. FULLER, M.D.

On List of Medical Colleges under Medical Practice Act.

S. B. ST. JOHN, M.D., GUSTAVUS ELIOT, M.D.,
W. G. BROWNSON, M.D.

On Honorary Members and Degrees.

WALTER L. BARBER, M.D., JOHN STANTON, M.D.,
P. H. INGALLS, M.D.

Committee on Publication.

N. E. WORDIN, M.D., ex officio.
JULIAN LAPIERRE, M.D., ex officio.
HENRY FLEISCHNER, M.D.

Committee of Arrangements.

WILLIAM M. HUDSON, Anniversary Chairman,
WILLIAM D. MORGAN, M.D.,
ANSEL G. COOK, M.D.

PROCEEDINGS
OF THE
CONNECTICUT MEDICAL SOCIETY.

ONE HUNDRED AND FOURTH ANNUAL CONVENTION.

The President and Fellows of the Connecticut Medical Society met in Warner Hall, New Haven, on Wednesday, May 27, 1896. The President, Dr. Hill, called the meeting to order at 11:45 A. M. The Committee on Credentials made its report by calling the roll of regularly appointed delegates.

FELLOWS, *ex officio*.

• *President.*

SETH HILL.

Vice President.

RIENZI ROBINSON.

Vice Presidents, ex-officio

- * GEORGE C. JARVIS,
- GUSTAVUS ELIOT,
- MYRON W. ROBINSON,
- JOHN W. WRIGHT,
- * FRANK E. GUILD,
- * ELIAS PRATT,
- FRANCIS D. EDGERTON,
- * EDWIN T. DAVIS.

Treasurer.

WILLIAM W. KNIGHT.

• *Secretary.*

N. E. WORDIN.

Committee on Matters of Professional Interest in the State.

CHARLES S. RODMAN, * ALVA E. ABRAMS,
* RUSH W. KIMBALL.

* Absent.

FELLOWS BY COUNTIES, ELECTED IN 1896.

Hartford County.

George R. Shepherd,	Joseph A. Coogan,
Francis H. Whiton,	George F. Lewis,
Phineas W. Ingalls.	

New Haven County.

J. H. Townsend,	* Carl E. Munger,
* Francis N. Loomis,	R. A. McDonnell,
William V. Wilson.	

New London County.

* William Witter,	Frederick H. Dart,
Edmund P. Douglass,	* Patrick H. Harriman,
Morton E. Fox.	

Fairfield County.

Alvin E. Barber,	* John G. Stevens,
* George M. Osborn,	* Junius F. Smith,
Loren T. Day.	

Windham County.

Lowell Holbrook,	Frederick A. Morrell,
* Henry L. Hammond,	Seldon B. Overlock,
* William H. Judson.	

Litchfield County.

* Ralph S. Goodwin,	W. S. MacLaren,
Walter S. Munger,	David R. Rodger,
Eugene C. French.	

Middlesex County.

J. Francis Calef,	Miner C. Hazen,
Matthew W. Plumstead,	* Howard T. French,
* Albert Field.	

Tolland County.

Frederick Gilnack,	* Cyrus B. Newton,
* William C. Haven.	

* Absent.

It will be seen that Hartford County had a full delegation, while Litchfield had only one absent.

The President then delivered the

ANNUAL ADDRESS TO THE FELLOWS.

Gentlemen :

The flight of time and a favorable vote enable us to meet as Fellows of the Connecticut Medical Society for the session of 1896.

Its interests and welfare are given into our hands, trusting we will care for them wisely and well. I therefore call your attention to a few of the subjects that seem to claim your consideration.

The condition of the Society is good, the County Societies, of which it is composed having had an unusually successful year, both socially and scientifically. Many of the papers read have been worthy of high praise, and all above the average mark.

Each and every one has seemed anxious to add his mite to the common good, thus helping to realize the bright hopes that seem to be dawning with the advent of the coming century.

New members have come to us, and old members have left us. The gain has been gratifying, but the loss has been great, for noble men, tried and true, tried in the battle of life and true to the end, have fallen and "the places that knew them shall know them no more," except in memory.

A sketch of the life and work of each will be made a matter of record, in proper time and appropriate place. An Honorary Member, James Edward Reeves, died January 4th, 1896. His life was that of a true physician, for he lived for the good of others. He was one of the founders of the American Public Health Association and its President in 1885. An ardent student, and an authori-

ty in Microscopy, he worked with ceaseless energy until the final summons.

The recommendation of my predecessor, to make "The Committee on Honorary Members a permanent or standing one," was approved at your last meeting, but what number should constitute such committee was not determined, or any provision made for their appointment. It might be well to perfect the organization of this committee as proposed.

Also, his suggestion that "The Committee on Matters of Professional Interest in the State be reorganized so that the committee be composed of eight members and that the County Reporters constitute that committee; that by virtue of their election they become Fellows of the Society; that the committee be as now a Standing Committee, and that they meet and organize by the election of a Chairman and Secretary at the first annual session of the Fellows, next after their election; that they divide the work among their members, as in their judgment will best accomplish the object desired and that the redundant office of Reporter on Medicine and Surgery be abolished and the duty devolving upon said Reporter be performed by the Committee on Matters of Professional Interest in the State constituted as above."

The Committee reporting on the above suggestions, was favorable to its adoption, but the By-laws requiring it to lie on the table a year, it comes before you for rejection or adoption as your judgment may dictate. It is worthy of your careful attention as the change proposed is a radical one.

An amendment to Chapter IV, Section 3 of the By-laws is reported for your consideration, but there seems to have been an error somewhere, as the sentence proposed to be stricken out does not appear in the By-law as it stands at present. I presume the author of the amendment will explain his object in offering it.

The amendment to strike out the words "on the day

or days immediately," in Chapter I, Section 3, will come before you for action, and if it accomplishes what is desired, will be a great improvement.

I hope for a free discussion, and the best judgment of the meeting in its decision. If it will increase the number of our attendance and thus add to the interest of our meetings, it surely is worthy of a favorable hearing.

I also take the liberty of calling your attention to a custom long in vogue, but for which there is no authority in the By-laws and ask you to so amend them that it will become legal, or instruct your officers as to their duty on the matter.

I refer to the fact, that our Vice Presidents, ex-officio, have acted as Fellows of the Society for a long time, if not always, without any authority from the By-laws for so doing.

I therefore suggest that Chapter III, Section 2, of the By-laws be amended by adding the letter s after Vice President, so it will read Vice Presidents.

Chapter V, Section 4, of the By-laws reads : " No member of the Society shall hold professional consultation or intercourse with any other than licensed physicians and surgeons in regular standing," which is indefinite if not ambiguous, at the present time and under existing laws.

As all physicians are licensed by the same authority and no person can be a physician without such license, it is certainly superfluous to say " any other than licensed physician," because there is not and cannot be any other in our state.

The new law makes useless the word " licensed " and has virtually amended our By-law so it reads " any other than physicians and surgeons in regular standing," and compels us to stop and consider what constitutes a physician in regular standing just at present. Is it because he is a graduate of a certain college or institute, or not a graduate of any? Because he is a member of a certain

Society or of no Society? Because he treats his patients with little pills, big pills, or no pills at all?

Is it this creed or that creed, this dogma or that dogma? We think not, for we have them from the North and from the South, from the East and from the West, of this creed and of that creed, yet no one of them bears the insignia "in regular standing" because all are licensed and all have equal standing before the law.

I simply call your attention to these facts and leave it for you to determine whether or not the new law has not made it necessary to change the phraseology of this section of our By-laws if we would have it retain the meaning that it formerly had, or that it was intended it should have.

Perhaps it will not be out of place to refer to the Medical Practice Act as it has been in working order two and a half years; time sufficient for us to discover its benefits or defects, if it should so happen that it contains either. Its success has been marked in its main objects, the registration of practitioners and the prevention of unqualified persons from the practice of medicine.

One thousand, eight hundred and thirty physicians have been registered, six applicants desiring to engage in the practice of medicine have been rejected by your Board of Examiners, five anxious to practice midwifery have met the same fate, and two convicted of illegally practicing medicine, constitute the benefits. A few defects have been noticed and amendments recommended.

One thousand, two hundred and forty-five physicians were registered previous to October 1st, 1893, and five hundred and eighty-five subsequently, thus providing one physician to every four hundred and forty-six inhabitants.

Surely our State should not complain of a dearth of medical men under the new law.

The amendments recommended by your Examining Committee are one year old and possibly they may need

altering or changing to meet the exigencies of a year's time.

First : " It was voted to recommend that the examination fee be fixed at ten dollars and that the law be so amended." The law says, " but before taking such examination he shall pay to the committee their expenses, not exceeding, however, the sum of ten dollars." This amendment may make a distinction but not any difference in the result, and, when under consideration, it might be well to read a sentence in each of the yearly reports of the Secretary of the Examining Committee and see if the proposed amendment is all it should be. In 1894 he says, " If all the members of the committee had been present at all the sessions, the fees (ten dollars) would not have been sufficient to pay expenses." In 1895, " In case all had been present at each of the sessions, the fee (ten dollars) would not have been sufficient to pay expenses." Do you expect your committee to do this work for " sweet charity's sake "? Do other committees or boards authorized by the State do their appointed work for like pay? If not, why not?

Second: " That the law be amended so that examinations be held three times a year only." Would it work any great hardship or wrong to any one, if it were held but twice a year, seeing that the average number of examinations has been but two or three a month, or four in six months, since the law went into effect?

Third: " That the law be so amended as to require all applicants for registration to pass an examination whether graduates of a medical college or not." This amendment, if it should become a law, is one of the keystones that will support and make valuable the Medical Practice Act.

Without it we have a weak and flimsy protection against unqualified men, for there are some one hundred and forty or more medical colleges that are liable and willing to drop their graduates upon us, and we without

practical remedy. An examination of all seeking to practice medicine is required in something like half the States of the Union, and it is the only way that equal and exact justice can be rendered the applicants and the public in general.

Some States have but one Board of Examiners; others require two, and some have such an amount of work that they have allowed three. But our State being small and the number of applicants not large under the present law, it cannot be unreasonable to think that one board could do all the work without incurring extra or dangerous fatigue.

There certainly should be but one authority for the admission of candidates to the practice of medicine.

Of the five hundred and eighty-five physicians registered since October first, 1893, your committee have passed by examination ten physicians and twelve midwives, leaving five hundred and sixty-three to be registered under the diploma of some little known college.

We hope this amendment will receive the endorsement of the Legislative Committee and the unanimous approval of the Society.

Fourth: "The committee call attention to the fact that one day is insufficient for the proper examination of candidates," which is undoubtedly true, and certainly makes it still more plain that if a fee of ten dollars for examination is insufficient to meet the expenses of one day, it will be less able to meet double the amount, or two days' expenses.

Fifth: "Is a suggestion as to the advisability of so amending the law that certificates may be revoked after conviction of crime before a proper court of law," and by some may be thought unnecessary, as there would seem to be laws already upon our statute books to be adequate for the punishment of crime.

These are the amendments offered up to the present time, but undoubtedly others will suggest themselves as

time further reveals the workings of the act. There is a difference of opinion as to the meaning of some sentences, the superfluity of others and the conflicting of one with another. It certainly has brought us complications that call for the attention of the Society.

There are something over two hundred physicians registered in Connecticut and living in other States. Some of them have applied for, and if I am correctly informed, have secured admittance to membership by our County Associations and the question of their eligibility will come before you for decision. The By-laws, Chapter I, Section 1, reads: "The Connecticut Medical Society shall be composed of the several County Associations, formed of active members, residing in the State."

The Medical Practice Act, Sec. 3, reads: "Any person who shall subsequent to said first day of October, 1893, file with said State Board of Health duplicate statements, in the form prescribed in the preceding section," which duplicate statement as given in Sec. 2 is a statement subscribed and sworn to by him upon blanks provided by said Board, giving his name, age, place of birth and present residence."

If registering in a certain town in this State gives to a non-resident the privileges of a resident, then he is eligible to membership in our Society, but unless a man is entitled to have two places of residence, there is a confliction in the situation as it stands. Also, when a special exception is provided, that allows a non-resident physician to practice medicine in the State, it evidently is not legal to make another law under the same act compelling his registration, without a repeal of the former clause.

Sec. 1 of the Medical Practice Act reads, "No person after the first day of October, 1893, shall, in this State, for compensation, gain or reward, received or expected, treat, operate, or prescribe for any injury, deformity, ailment or disease, actual or imaginary, of another person,

nor practice surgery or midwifery, unless or until he has obtained a certificate of registration as hereinafter provided ; " but further it says : " This act shall not apply to any physician or surgeon then actually residing out of this State, who shall be employed to come into this State, to treat, operate or prescribe for any injury, deformity, ailment or disease from which any person is suffering at the time when such non-resident physician or surgeon is so employed."

Unless there be some hidden or occult meaning to the above clause, something unperceived by the ordinary observer, there can be little doubt about the illegality of the registration of non-resident physicians under the present law. I gently call attention to these facts, and ask the Society and especially the Legislative Committee to examine carefully any and all proposed amendments to the Medical Practice Act that they may be moderately sure of recommending only those needed to make it a useful and practical act. There are a number of resolutions from the County Associations and some from the outer world, referred to the Committee on County Resolves, but time is too limited to give them to you in detail.

Fellows of the Society:

We confidently expect that our scanty and verdant experience will be supplemented by your talented and well-tried ability, during the one hundred and fourth session of the Connecticut Medical Society which is now organized and waits the pleasure of those who will make its little history.

The regular Committees were then announced as follows:

On Credentials.

N. E. Wordin,

R. A. McDonnell.

On Unfinished Business.

F. D. Edgerton,

H. L. Hammond.

On County Resolves.

Geo. F. Lewis, J. H. North, L. T. Day.

To Nominate Essayist on the Progress of Medicine and Surgery.

Gustavus Eliot, P. W. Ingalls, J. W. Wright.

On Business.

N. E. Wordin, F. H. Whiton, Miner C. Hazen.

On Honorary Members and Degrees.

Cyrus B. Newton, Elias Pratt, F. N. Loomis.

Auditing.

Morton E. Fox, M. W. Plimstead.

On Reception of Delegates and Invited Guests.

William G. Daggett, Henry W. Ring,
J. P. C. Foster.

On motion, a committee of three was appointed, to consider the subjects alluded to by the President in his address. Doctors Storrs, W. S. Munger and G. F. Lewis were elected the members of it.

There being some time remaining before the hour for adjournment, Dr. Maillhousé, Secretary of the Committee on Medical Examinations, presented its report:

To the President, Fellows and Members of the Connecticut Medical Society:

Your Committee on Examinations presents herewith its annual report. Since the last meeting of the Society, we have held six meetings and examined nine candidates. Of these three were midwives and six were general practitioners. Of the midwives, all received more than the required rating of sixty per cent. and so received certificates of qualification. Of those examined for general practice, four, or sixty-six and two-thirds per cent. were accepted, and two, or thirty-three and one-third per cent. rejected. Seventy-five per cent. is the required standard for these.

The following is a list of those who received certificates of qualification:

- June 21, 1895. Frank A. Kirby, M.D., Columbian University Medical School, 1895, of Sheffield, Mass.
 George W. May, M.D., Milwaukee Medical College, 1895, of Willimantic, Conn.
 Aloisia Kantzky, studied at Prague University, Midwife, Hartford, Conn.
- Oct. 4, 1895. John L. North, M.D., University of Louisville, 1894, Avon, Conn.
 Ida P. Stolz, studied at Dresden, Midwife, Rockville, Conn.
- April 10, 1896. Mary Szathmary, studied at Grosvardein, Hungary, Midwife, Bridgeport, Conn.
- May 22, 1896. Thomas F. Stanton, M.D., College Physicians & Surgeons, Baltimore, 1896, of Hartford, Conn.

The two rejected were desirous of obtaining certificates for the practice of medicine, surgery and obstetrics; these were both Italians. One claimed to have graduated from the University of Naples, the other stated that he had studied medicine but had never graduated; yet of the two, his work was the better. The former began his examination in the English language, but after he had consumed half a day upon one subject, and it had become evident that his examination could not be finished in two days, it was decided to permit him to complete the examination in his native tongue, and his answers were then translated by the Secretary. Although this candidate gave some evidence that he had once studied medicine, yet his papers showed an unpardonable forgetfulness of most familiar points in Anatomy, Physiology and Chemistry, and a lamentable ignorance of the progress of medical

science for the past fifteen years. No one member of the Committee considered him properly qualified.

Besides performing the work of examinations, the Committee has done considerable by way of advice and correspondence with and concerning candidates. For instance, one rejected candidate enlisted the sympathies of others in his behalf, and the Secretary received a lengthy communication from a newspaper editor, asking us to take certain matters into consideration in the case. When the condition of affairs was stated, the editor was satisfied.

One man applied for examination, then, at the eleventh hour, asked to have the same postponed to a more convenient time; was refused, however, because all arrangements had been made; agreed to appear next day for examination, but failed to do so.

July 26, 1895, had been appointed by the State Board of Health as a date for the examination of a candidate. During the week preceding this date, however, the candidate had two interviews with the Secretary during which the following facts were brought forth: The candidate, again an Italian, stated that he had been a licensed pharmacist in Italy, where he had also practiced medicine to some extent. Many of his old friends now resident in New Haven were very desirous of employing him as a physician, and so he had applied in regular form for an examination. He really believed he could pass such an examination. He stated he had never taken a regular course in medicine, that he knew nothing of Surgery, Pathology, Anatomy or Physiology, and offered to agree not to practice Surgery, provided he were licensed. The Secretary advised him to withdraw his application and give up the idea, as it would be impossible for him to pass an examination. It was very difficult to convince him of this, but finally, after two very lengthy interviews and much argument, he reluctantly decided to follow the advice given. Our law has often been declared worthless

by many members of the Society. What might this man not have done but for the law, feeble though it now may be?

The Committee has been called together once for the examination of three applicants, and four times for a single applicant. At three of the sessions, two days were required for each examination.

We again urge upon the Society the necessity of examining all applicants for registration, and not only this, but also would recommend that only such be permitted to take the examination as hold diplomas from legal and reputable colleges. Such a law in this State would place us in line with the other States which are leaders in this movement of reform.

It is the opinion of the Committee that it does but little good to examine the few candidates we have before us, while a crowd of the refuse of the medical colleges settles upon us *ad libitum*. Note the large number of diploma holders settling in Connecticut upon registration, as evidenced by the monthly reports of the Secretary of the State Board of Health. And note the few examined, and these in large proportion foreigners. Whether this recommendation be adopted or not, we still hold to the opinion that two or three sessions a year should suffice for the examination of those desiring to practice. The State is already overcrowded with practitioners, and it certainly would be no disadvantage to the public to allow applicants a few extra months of preparation before being examined. Of the six sessions held, four have been for the benefit of a single candidate.

We are now in line with the other States in the matter of language. All must now be examined in English, whether practitioners or midwives. This, we believe, is as it should be, and we hope the members of the Society will endorse our decision.

With the close of this calendar year expires the term of Dr. J. W. Wright, who was originally appointed to

serve on this Committee for the term of three years. Dr. Wright has worked hard and faithfully in the interests of the Society and the State, often at much sacrifice to himself, and the remaining members of the Committee feel grateful to him for his work in this field.

Respectfully submitted,

MAX MAILHOUSE, Secretary.

The report was accepted.

The Treasurer presented his report which was referred to the Auditing Committee.

REPORT OF TREASURER.

To the President and Fellows of the Connecticut Medical Society:

As Treasurer I would respectfully present the following report of the finances of the Society for the year ended May 26, 1896:

RECEIPTS.

Balance from old account.....	\$ 604 65
Cash received from County Clerks:	
Hartford County	\$ 223 20
New Haven County.....	239 85
Fairfield County	201 60
New London County.....	68 15
Windham County	41 40
Litchfield County.....	80 37
Middlesex County	66 60
Tolland County	27 45
	<hr/>
Total receipts from taxes.....	948 62
	<hr/>
Total receipts.....	\$ 1,553 27

EXPENSES.

Printing Proceedings	\$ 590 62
Binding Proceedings	125 50
Printing and stationery	37 75
Postage, expressage, etc.....	74 34

Salary of Secretary.....	150 00	
Expenses of Secretary....	5 80	
Salary of Treasurer.....	25 00	
Incidentals	2 45	
		<hr/>
Total expenses		\$ 1,011 46
Cash on hand May 26, 1896		\$ 541 81
		<hr/>
		\$ 1,553 27

DUE ON TAX 1895.

Hartford County	00 00
New Haven County.....	\$ 90 00
Fairfield County	30 00
New London County	18 00
Windham County	16 00
Litchfield County	6 00
Middlesex County	00 00
Tolland County	00 00

Total amount in arrears..... \$ 160 00

Several of the counties show a marked improvement this year in the way of lessening the amount of taxes in arrears, one a considerable increase, which brings the total arrears nearly up to last year.

The expenses of the Society exceed its income by about \$60.00, but I think that all bills can be paid the coming year from a tax of \$2.00 per member, with a moderate draft on the surplus.

Respectfully presented,

W. W. KNIGHT, Treasurer.

The morning session was then declared adjourned to 1:45.

THE AFTERNOON SESSION,

Was called to order at 2:15 by President Hill. The report of the Committee on Unfinished Business being the first thing in order, Dr. Edgerton reported that his Com-

mittee recommended to grant the changes asked for which were to amend Chapter I, Sec. 3, of the By-laws by striking out the words, "on the day or days immediately." The Section would then read, "The Connecticut Medical Society shall hold an Annual Convention for Literary and Scientific exercises, following the general meeting of the President and Fellows," and to amend Chapter IV, Sec. 3. On motion of Dr. Eliot the report was accepted.

Dr. Ingalls remarked that he was responsible for the change relating to dates. Last year, as Anniversary Chairman, he tried to make the meeting attractive. He ran against a snag in the impossibility, under the By-laws, of doing anything but strictly business on Wednesday. The Committee at that time thought it would have been better could they have had the meeting of the President and Fellows in the morning, the dinner and the President's address in the evening, and finish with the rest of the literary work on the following day. Instead of having two or three hundred at the banquet, as there should have been, there were but fifty. There was, too, the difficulty of hunting up some one to hold a reception, sometimes quite a task.

If the By-laws were changed it would not compel any change in the arrangements for the meetings, but there would be nothing in the way if a change should be desired. He moved to amend the By-laws by leaving out the words "on the day or days immediately," in Chapter I, Sec. 3.

Dr. F. W. Wright said that he had proposed the other amendment, to add the words, "Provided he has been residing and practicing in the State one year and in said County six months," to Section 3, Chapter IV, of the By-laws, as it now stands.

This would be better for the Society, he said. We have in our large cities men coming and going. They join the Society but never contribute anything to it. They go into other States and pose as members of the Connecticut

Medical Society. Some of them are not creditable to the State and would not have been allowed to join had they remained longer. He thought the amendment would be a benefit to the State.

Dr. Edgerton, to avoid any confusion and to bring the matter definitely before the meeting, moved that Chapter I, Sec. 3, of the By-laws, be amended by striking out the words, "on the day or days immediately." This was carried, by a rising vote. He further moved to amend Chapter IV, Sec. 3, by adding to it the words, "provided he has been residing and practicing in the State one year and in said County six months." This was carried.

The only Special Committee to report was the one On the List of Medical Colleges under the Medical Practice Act. Dr. H. E. Smith, Chairman made a majority report.

Mr. President and Fellows of the Connecticut Medical Society—

Gentlemen :

When this Committee was appointed a year ago the members had already had one year of experience and fully realized that it was important that the three medical societies of the State should work in harmony, or at least that they should not in any way interfere with one another's work. It seemed to us that this result would be attained by a division of labor, each society giving special attention to its own colleges. The Eclectic Medical Association had already adopted this plan, and our Society did so at its last meeting. We therefore entered into correspondence with the officers of the Homeopathic Society with this end in view. The proposition met with a cordial reception and prompt action. That Society sent early in the year to the Secretary of the State Board of Health a list of approved Homeopathic colleges, and in so doing cut off from the list of recognized colleges a considerable number of regular schools which were not approved by our Society.

The Committee have thought it advisable at this time to present some statement concerning the registration of

physicians in this State during the past few months, and have therefore prepared the following tables.

The first shows the basis of registration of those physicians who have been licensed during the fifteen months from January 1st, 1895, to April 1st, 1896. The second table shows the towns from which these registrations were made.

TABLE I. SHOWING THE BASIS OF REGISTRATION IN CONNECTICUT FOR THE FIFTEEN MONTHS, JANUARY, 1895, APRIL, 1896.

University, City of New York	36
College Physicians and Surgeons, N. Y.	26
Yale University, Medical Department	17
Bellvue Hospital Medical College	16
University of Pennsylvania	10
University of Vermont	10
Long Island College Hospital	10
Albany Medical College	9
Connecticut Medical Society	9
Baltimore Medical College	9
New York Homeopathic Medical College	8
Dartmouth College	7
Hahnemann Medical College, Pa.	6
Harvard University	5
College Physicians and Surgeons, Baltimore	4
Eclectic Medical College, N. Y.	4
McGill University	3
Starling Medical College, Philadelphia	3
Women's Medical College, Philadelphia	3
Medico Chirurgical College, Philadelphia	3
Jefferson Medical College	3
New York College and Hospital for Women	3
College Physicians and Surgeons, Chicago	2
University of Wooster, Ohio	2
University of Michigan	2
Hahnemann Medical College, Chicago	2
Eclectic Medical Association	2
American Medical College	2

Rush Medical College.	1
University of Toronto.....	1
Detroit Medical College.....	1
Berkshire Medical College	1
Western Medical College.	1
University of Trinity College, Toronto.....	1
College of Eclectic Medicine and Surgery, Ga.....	1
Georgetown University, D. C.....	1
College Physicians and Surgeons, Minneapolis.....	1
Omaha Medical College.....	1
Pennsylvania Medical College	1
Boston University ..	1
University of Buffalo.....	1
Lavalle University	1
University of Bishop's College.....	1
Women's Medical College, Baltimore.....	1

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TABLE II. SHOWING THE TOWNS IN WHICH THE REGISTRATION WAS MADE.

Greenwich	79	Seymour	1
Bridgeport	18	Groton	1
New Haven	16	Clinton	1
Thompson	12	Southbury	1
Salisbury	10	Wethersfield	1
Enfield	10	Southington	1
Hartford	9	Tolland	1
Stamford	7	Washington	1
Norwich	4	Willimantic	1
Danbury	3	East Hartford	1
Waterbury	3	Orange	1
Sterling	3	Glastonbury	1
Norwalk	3	Plymouth	1
New Britain	3	North Canaan	1
Middletown	3	Torrington	1
Killingly	2	Westport	1
Colchester	2	Norfolk	1
Meriden	2	Derby	1

New London	2	Ansonia	1
Putnam	2	Avon	1
Milford	2	Essex	1
Suffield	2	Plainfield	1
Fairfield	1	Andover	1
Darien	1	North Stonington	1
Voluntown	1	Ridgefield	1
Manchester	1	Wallingford	1
Morris	1	West Haven	1
Berlin	1	Lyme	1
Colebrook	1		
Total			232

The total number of persons registered in the fifteen months is 232. Fifty-four per cent. were on diplomas from seven colleges ; forty-one per cent. on diplomas from thirty-five other colleges, and five per cent. were by examination. There were six colleges from which only two graduates came into the State, and sixteen from which there was only one each. During the year 1895 there were in Connecticut 190 registrations, an average of one registration to each 4,000 of the population, according to the census of 1890. In New York during the year ending August 1st, 1895, the latest data obtainable, the registration was 504, or one to each 12,000 of the population, according to the same census. These figures cannot be taken as expressing accurately the proportion between registration and population, as the latter has changed during the five years since 1890, but presumably the ratio is practically unchanged. Consequently, the registration in New York, a commonwealth protected by a rational state's examination, is about one-third what it is in Connecticut without such a safe-guard.

An examination of the towns in which the registrations have been made shows that there are certain towns in which there is a very excessive registration going on. Thus in 1895 there were in Greenwich sixty-four; in Thompson eight ; in Enfield eight ; and in Salisbury six.

These are border towns, and the figures show that a large number of non-residents are seeking licenses in Connecticut, perhaps for occasional or for future use. With due allowance for these non-residents it is still very evident that we are having an abnormally high registration.

In seeking an explanation for this we may not flatter ourselves that our State is an especially attractive field, but rather we are forced to the conclusion that registration is excessive because it is easy. With examinations required in the neighboring States of Massachusetts, New York and New Jersey, registration on a diploma in Connecticut is comparatively very easy. If this is the cause of our excessive registration may we not fear for the future high standing of our profession in this State, for easy registration is especially attractive to those ill prepared for examination, and to those who have failed elsewhere. In this connection it may be said that the official records of the Regents of the State of New York show that they have rejected fourteen per cent. of all applicants for examination in that State and during the last two years the rejections have amounted to sixteen and nine-tenths per cent. In other States the proportion rejected has at times been even higher, amounting to twenty or twenty-five per cent.

Impressed with the desirability of elevating the standard for admission to practice in Connecticut as far as may be until such time as this State is put on a level, in its requirements, with the surrounding States, your Committee present a revised list of the regular medical colleges for your consideration.

In making this revision there have been included in the list only those colleges which have shown by their published statements, or public acts, that they are consistent advocates of a standard of medical education in accord with the best demands in this country, or in some cases where such evidence is not before the Committee, such as have maintained a creditable standing in the various State examinations.

If some are inclined to think that the list is too small, the Committee would remind them that exclusion from the list does not debar a graduate of any school from practice in this State, but simply requires that he demonstrate his fitness at an examination of no greater severity than is required by our hospitals.

It is the unanimous opinion of the Committee that all effort should be made to hasten the day when all candidates for practice in this State shall be required to demonstrate their fitness by a State examination. Meanwhile let us not invite into the State those who have been rejected elsewhere.

Medical Department, University of California, San Francisco.

Yale University, Medical Department, New Haven.

Chicago Medical College, Northwestern University, Chicago.

Woman's Medical College, Northwestern University, Chicago.

Medical Department, State University of Iowa, Iowa City.

Johns Hopkins Medical School.

Harvard University, Medical School, Boston.

Department of Medicine & Surgery, University of Michigan, Ann Arbor.

College of Medicine & Surgery, Minneapolis.

College of Physicians & Surgeons, New York.

Medical Department, University of Buffalo.

Women's Medical College of the New York Infirmary, New York.

College of Medicine of Syracuse University, Syracuse.
University of Pennsylvania, Department of Medicine, Philadelphia.

Women's Medical College of Pennsylvania, Philadelphia.
University of Virginia Medical College.

Respectfully submitted,

HERBERT E. SMITH,
N. E. WORDIN.

Dr. F. W. Wright, the other member of the Committee, submitted a minority report, in which he added the names of Bellevue, the University of New York and the Jefferson Medical College to the list, and moved to amend the majority report by adding them to the list presented.

Dr. N. R. Hotchkiss: I don't see any reason for bringing in a list of colleges. We ought to examine all. On excluding certain colleges, many will raise objections, maintaining that the schools of which they are graduates, and rejected, are of the same grade as others which are left. He protests against eliminating certain colleges and inserting others.

Dr. G. Eliot: It seems to me that the list proposed is in many respects unsatisfactory. The members of the Connecticut Medical Society are mostly practical men. If a man practices well we consider him a good man. We all desire to see the standard raised. We all want that every one should be examined. Every list of colleges must be modified. A college may have a good standing and none of its graduates ever be seen. The Chicago Medical College stands high but it has no graduates in Connecticut. It is hardly fair to put in what seems good. What we want is men who make good practitioners. Some colleges have a history behind them. They have the respect of the medical men of America. They have eminent men behind them.

Dr. H. E. Barber: There was a list of colleges now extinct. They were in good standing and ought to be in.

Dr. Shepherd: We cannot intelligently discuss the subject until we hear the report of the Committee on Legislation. They will recommend changes in the State law. I am in favor of accepting both reports but would wait for the report of the other Committee.

Dr. W. S. MacLaren: I am opposed to the list. If it is a short list of reputable colleges, then those which are omitted are by imputation disreputable. I am strongly opposed to stating that those left out are disreputable.

Dr. F. D. Edgerton: Among the cleverest medical men in Connecticut are graduates of Bellevue and other colleges which are not included in this list. There are fathers who may be disposed to send their sons to their Alma Mater. The few who are present here, should not speak for the alumni of those colleges. The fathers of those sons will have their feelings injured thereby. We ought to defer action.

Dr. P. H. Ingalls: I move to lay both the majority and minority reports upon the table. This was adopted.

Dr. G. Eliot: I move that the Committee be requested to make a new list in accord with the sentiment of the meeting.

The Secretary: The Committee has had several meetings. They have gone over the ground very carefully, have made themselves acquainted with the standing of the various colleges and the results of the examinations before the Regents of New York State, a board most carefully made up. We have made our report in accordance with the facts which we have found from the colleges as they are to-day, not as they have been in the past. We have not been governed by sympathy in the matter. The Committee on Legislation will soon report and will bring in names for a new Committee. Let that Committee bring in a new list.

The motion of Dr. Eliot was lost.

The report of the Committee to Consider the Suggestions of the President in his Address, was called for, under the head of New Business. The report was accepted and it was voted that each article of it be considered separately.

I. We recommend that the Committee on Honorary Members shall consist of three, who shall be recommended by the Nominating Committee. This was adopted.

II. We recommend the rejection of the proposed amendment to the By-laws, constituting the County Reporters, a Committee on Matters of Professional Interest

in the State, and abolishing the Committee as at present made up. This was adopted.

III. We recommend the passage of the proposed amendment to Chapter I, Sec. 31, of the By-laws, striking out the words "on the day or days immediately." As this had been already done, no action upon it was necessary.

IV. We recommend the adoption of the amendment to Chapter III, Sec. 2, of the By-laws, by adding s to the word Vice-President, making it read Vice-Presidents. This was adopted.

Dr. Ingalls stated that the Publication Committee had a rule that papers published elsewhere should not appear in the Proceedings. This has kept papers out of the Proceedings altogether or it has been six months before they have come to light. Other State Societies have removed this restriction and we ought to do so. If a paper is good, it should be published when it is new and fresh. Members who read papers before the meeting should be permitted to publish them in any paper they see fit. He moved that publication of a paper in any medical journal should not exclude it from the Proceedings if it is worthy in other respects.

Dr. Eliot.—Would like to inquire if any paper had been excluded from the Proceedings, and by what authority.

Secretary.—The Committee on Publication every year has declined to publish papers which have been deemed unworthy of the Proceedings. We want to make our book just as good as possible. Papers have been sent to us in type which, we know, had been published elsewhere. We have returned them.

Dr. Munger.—Not all of us take all of the medical journals. If we should have read them before, we would not read them in the Proceedings, but that would not occur.

Dr. Ingalls explains: If a man has published a paper elsewhere, that need not debar it from the Proceedings. That alone should not exclude it.

Dr. Parsons.—There are good points on both sides. We ought to be proud of our Society and of our Proceedings. If a paper is asked for we ought to say, yes, after it has been published in our Proceedings. It is worth something to a man to have a paper in the Proceedings. It ought to dignify our Society by putting fresh work into it. We ought to be proud enough of our Society to put fresh papers in the Proceedings.

Dr. R. Robinson.—What is a paper worth? It is worth nothing unless it comes to us fresh. If the subject has gone by and been forgotten, the paper is not good. If it is worth publishing, let us have it.

Dr. Eliot.—Is it worth anything to a man to have a paper published in the Proceedings? I wouldn't hesitate. If it was a choice between the Proceedings and a good journal, I would give it to the journal. I think it would benefit a man more.

The motion of Dr. Ingalls was adopted.

The Committee on County Resolves reported through its chairman, Dr. G. F. Lewis. Its recommendations were considered separately.

I. We recommend the approval of the By-laws of the New Haven County Medical Association as submitted:

CHAPTER I.

This organization shall be called "The New Haven County Medical Association."

CHAPTER II.

SECTION 1. The members of this organization shall be such members of the Connecticut Medical Society as reside in New Haven County.

SECTION 2. Any practicing physician of good moral character, who has received the degree of Doctor of Medicine, or has been admitted *ad eundem* from such medical authorities as the Connecticut Medical Society shall deem proper to recognize; who has resided in New Haven County for six months preceding any regular meeting of

the organization; who has made application in writing and has exhibited his diploma to the Clerk at least thirty days before said regular meeting; who has been recommended in writing by a majority of the Committee on Credentials; and who has been elected by a majority of the ballots cast by the members present at said regular meeting, shall become a member of this organization, if he signs the Charter and By-laws of the Connecticut Medical Society and of this organization not later than thirty days after his election.

CHAPTER III.

SECTION 1. Two regular meetings shall be held during each year. The annual meeting shall be held at least four weeks before the fourth Wednesday in May. The semi-annual meeting shall be held in October. The exact date and place of meeting shall be determined by the Executive Committee.

SECTION 2. Ten members shall constitute a quorum for the transaction of business.

CHAPTER IV.

SECTION 1. The officers of this organization shall be a President, Vice-President, Clerk and Executive Committee.

SECTION 2. The President and Vice-President shall be elected by ballot annually, at the semi-annual meeting. Their term of office shall commence on the first day of January succeeding the election.

SECTION 3. The Clerk shall be elected, by ballot, for five years, at an annual meeting, and his term of office shall commence on the first day of July succeeding the election.

SECTION 4. The Executive Committee shall consist of the President, Vice-President, Clerk, and two members elected by ballot at the semi-annual meeting. The term of office of each one of these elected members of the Committee shall be two years, and shall commence on the first

day of January succeeding the election, provided at the first election following the adoption of these By-laws one shall be elected for one year and the other for two years.

SECTION 5. The Clerk shall send to each member notice of the meetings at least four weeks before the date of the meeting. On this notice shall be stated the name, place and year of graduation, and residence of all applicants for membership, who have been recommended by the Committee on Credentials.

SECTION 6. The Executive Committee shall select the date and place of meeting at least thirty days before the meeting is held, and may subsequently, if necessary, change either, provided notice is sent to each member at least forty-eight hours before the meeting is convened. It shall report at each meeting a question for discussion at the following meeting, and a committee of two or three to report upon the question. It shall report at each meeting the names of two or three dissertators, who shall read dissertations at the following meeting.

It shall nominate at each semi-annual meeting a Committee on Credentials, consisting of three members, including the Clerk; three Censors; a Committee on Public Hygiene, consisting of three members; a Committee on Biographical Sketches, consisting of three members, including the Clerk; and a County Reporter on Matters of Professional Interest.

CHAPTER V.

SECTION 1. At the annual meeting five Fellows shall be elected by ballot, to represent the organization at the meetings of the "President and Fellows of the Connecticut Medical Society" during the succeeding year.

SECTION 2. The first Fellow elected shall be a member of the Nominating Committee of the Connecticut Medical Society. If he is unable to attend any of the meetings of said Committee he shall appoint one of the other Fellows to act on that Committee.

SECTION 3. Five alternates shall also be elected by

ballot at each annual meeting. If any Fellow is absent from any of the meetings of the Connecticut Medical Society, the first member on the list of alternates who is present, shall act in his place, except on the Nominating Committee.

CHAPTER VI.

The preceding By-laws may be changed by a vote of two-thirds of the members present at any regular meeting, provided the proposed change has been announced at the preceding regular meeting.

CHAPTER VII.

The Charter and By-laws of the Connecticut Medical Society shall be, and shall have the effect of By-laws of this organization in regard to all subjects not fully provided for in the preceding chapters.

This was accepted by the Society.

II. We recommend the acceptance of the resignations of Doctors C. H. Osborne, W. C. Wile and T. M. Franklin of Fairfield County. This was also accepted.

III. We recommend that Dr. Louis J. Pons be discharged from membership in Litchfield County. We recommend laying on the table the discharge of Dr. W. W. Knight of Sharon.

IV. We recommend the exemption from taxation of Dr. Jerry Burwell of New Hartford.

There was considerable discussion over the names to be dropped and the point was made that we should follow the recommendation of the Counties

Dr. Edgerton said: This is an individual case. Let the County tell us why their action is taken.

Dr. MacLaren.—The subject of Dr. Knight was thoroughly discussed in County meeting. It was a flagrant case. He was respectfully solicited for his taxes. He said he didn't belong to the Society. We could take no other action.

The Chairman, Dr. Lewis, read the resolution: "Re-

solved, unanimously, that Dr. W. W. Knight of Sharon be recommended to the President and Fellows of the Connecticut Medical Society for discharge, for persistent neglect and unwillingness to pay the dues ;" and said : Your Committee could not recommend an honorable discharge. They suggested to lay on the table the discharge of Dr. Knight because a gentleman from Litchfield County thought there was a mistake and that the dues would be paid. They didn't want to disturb the harmony of the County and so proposed to give a longer time for settling the difficulty.

A motion was passed that we consider the names separately. On further motion, Dr. Pons was discharged from membership.

A motion to lay on the table the discharge of Dr. Knight was lost. A motion to drop him from membership was carried. Dr. Burwell was exempted from taxation.

V. We recommend the endorsement of the sentiments of the New Haven County Medical Association regarding the Medical Practice Act. This was laid on the table, as it was coming up in another form.

VI. We recommend the resolution of Hartford County relating to the filling out of still-birth certificates, to the Committee on Legislation, and that as much of the resolves relating to the publication of such State laws as refer to physicians, be referred to the Committee on Publication.

The resolutions referred to are as follows:

WHEREAS, The statute laws pertaining to the practice of medicine, and such as are of peculiar interest to the medical profession, are something upon which it is desirable all physicians be informed, and

WHEREAS, There is not now in existence any compilation embodying all such existing statutes, for general circulation among physicians, (the "statutes pertaining to Public Health," a compilation gotten out by the State

Board of Health, omits at least eighteen sections and chapters of the statutes and legislative acts and resolves which have direct and important bearing upon medical interests, and is moreover not designed by the State Board of Health for general distribution) and the looking up of such statutes involves reference to a constantly increasing number of volumes, and

WHEREAS, There is not now observed any regular method of keeping our members promptly informed of new legislation which may have a medical bearing; be it

Resolved, That this meeting suggests and recommends to the State Association that a pamphlet presently be published by the State Association, for general distribution among its members, and with which to provide each one who may in the future become a member, which shall embody all existing statutes of the State of Connecticut affecting physicians, and of peculiar interest to the medical profession; and also the Constitution and By-Laws of the State Society. And be it also

Resolved, That the State Society have published and promptly sent to each member at the close of each legislative session a copy of all additional legislation of similar character.

Dr. Edgerton made a motion that the statutes referred to be put in the Proceedings.

Dr. Lindsley.—The State Board of Health publishes every two years a manual of the sanitary laws, which includes everything in which physicians are interested. He had eight hundred copies on hand, which he would be glad to distribute.

The motion to publish them in the Proceedings was withdrawn and a motion to lay the matter on the table was carried. The Secretary of the State Board of Health was requested to supply the members of the Connecticut Medical Society with copies.

Dr. Edgerton stated that Middlesex County had a resolution but it had been omitted through some oversight.

He now introduced it, asking that the taxes of Doctors J. W. Burke and A. W. Worthington be abated. This was granted.

The Committee to nominate Essayists on the Progress of Medicine and Surgery reported for Medicine, Doctors F. T. Simpson of Hartford and F. K. Hallock, of Cromwell ; for Surgery, Doctors W. S. MacLaren of Litchfield and C. C. Godfrey, of Bridgeport. The report was accepted.

The Committee on Business read the titles of some papers which they proposed to have read to-morrow, and desired the privilege of making changes in the programme as occasion required. The report was accepted.

STANDING COMMITTEES.

Dr. Hughes reported from the Committee to nominate Physicians to the Retreat for the Insane, that there had been no meeting of the committee and no vacancy at the Retreat.

Dr. Storrs rendered the report of the Committee on Legislation. The Medical Practice Act has now been in force for three years and has been proved to be of advantage. It certainly has in the matter of registration and to some extent in that of examinations. All felt that it was not a strong law and that at some time it would have to be amended. Last year it was considered to be ill advised to do it and that if the points under dispute should be tested longer, more would be found which needed change. We have sought the feeling of those who are interested, and they have declared that the law has done better than its friends thought it would. Now the time is opportune for doing something. Neither I nor Mr. Gross thought it should be done before. The Committee have to-day been over the resolutions received from the County Associations, the reports of the Board of Examiners and of the County Health Officers, and have consulted Mr. Gross, with the following conclusions:

The Health Officer of Hartford County says that a weak

point in the law is (Sec. 1) that we must prove that remuneration has been accepted. If that is left out it will be an easy matter. We would therefore recommend the following amendments and alterations:

Item 1. To strike out the words "for compensation, gain or reward received or expected", and insert, "professionally, or as a business," making the altered Section to read:

"No person after the first day of October, 1893, shall, in this State, professionally or as a business, treat, operate, or prescribe for any injury," etc. This does not interfere with the druggists because Sec. 15 of the Act says "the provisions of this bill shall not apply to licensed pharmacists."

Item 2. From the same source we have the criticism that while any one can make complaints, it is no one's business.

If it should be made the duty of the Health Officers to make complaint it would work well.

Dr. Lindsley.—There have been two prosecutions and they have been successful. It is not necessary to change the law.

Item 3. From the Board of Examiners we have the suggestion that they shall be required to meet only three times a year, the second Tuesdays in March, July and November, and that the fee remain at ten dollars. If the Board be required to meet, as now, within thirty days of the notice, if there be but one candidate, and the examination should take a day or two, it would be much work and little pay. The change proposed would make our Act correspond with the Massachusetts law.

Item 4. This also came from the Board of Examiners. It is that all applicants be required to pass an examination. The older men don't like this, but all should be treated alike. Those amendments and the law are for the good of medicine.

Item 5. Certificates may be revoked after conviction for crime.

Item 6. The Committee advise striking out the Section relating to pharmacists.

Item 7. In Meriden we can't get a court to convict. Section 11 of the Act provides that the fine, when collected, shall be paid one-half to the person or corporation making the complaint, and the other half to the State Board of Health. If this clause be stricken out the money for fines will go to the court and there will be no trouble. We recommend that this change be made. We recommend, finally, the passage of a vote that the Committee on Legislation ask from the Legislature the changes embodied in this report and that the Committee be empowered to employ counsel.

Dr. Eliot moved to adopt the report.

Dr. Lindsley hoped it will be remembered that when the bill passed originally, the chief opposition came from the Eclectics. He had received a letter from the Secretary of that Society which said they were glad to see that the New Haven County Association had passed resolutions requiring examination for all. They had passed similar resolutions. This showed the revolution in sentiment.

Dr. Storrs.—No doubt every item can be carried. The other Counties are in favor of examinations. There will be no opposition from the other Counties. It throws off the opposition of the mind cure, the rubbers, and all those. They will not be there. They are not interested in examinations. But we ought not to be asleep. We must do all we can to raise the standard of medicine. Then we will have as good a law as possible. If not, we will be swamped. Half the States require examinations and practitioners will go to that State where no examination is required.

Does the passing of the motion obligate the Legislative Committee to secure the passage of all the Sections? Ought we to have discretion? We propose to get all the articles if we can. If trying for some will endanger

others, we may have to make changes. We must yield a point to gain a more important one.

Dr. Lindsley.—Will the resolution permit that? You are instructed to get all, if you can.

Dr. Storrs.—We ought to defer to counsel. Can we do that?

Dr. Edgerton.—I move to amend that the Committee have power to modify or change the propositions reported.

A parliamentary question here arose, causing some confusion. It was moved that the recommendations be referred to the Legislative Committee with power to act at discretion and to employ counsel. This was carried.

A motion was made and passed to take from the table the resolutions of the New Haven, Hartford, Middlesex and Fairfield County Associations. They were then referred to the Committee on Legislation. They are as follows :

In consideration of the fact that large numbers of graduates of colleges, which in this State are recognized as legal and reputable, are being rejected by examining boards in other States where the possession of such diplomas is not in itself sufficient to entitle the holders thereof to practice, and

WHEREAS, As a consequence of the foregoing fact this State has become the dumping ground of other States with respect to undesirable practitioners, and

WHEREAS, In our opinion it behooves the State for its own protection to guard against such an invasion, it is

Voted, By the New Haven County Medical Association, that the attention of the other County Associations, the various State Medical Societies, and the various committees on lists of medical colleges be called to this state of affairs, and that pending legislative action, these committees be requested to revise such lists that they shall conform to the tenor of these resolutions.

Further be it resolved that the State Committee on Legislation be instructed to advocate the amendment of

the law, so that all candidates for registration be required to pass an examination as is now the case in New York, Pennsylvania and many other States.

Adopted at the semi-annual meeting of the New Haven County Medical Association, October 17th, 1895.

The Secretary then read the

REPORT OF THE COMMITTEE ON PUBLICATION.

Although the Society voted to print seven hundred and fifty copies of the Proceedings, your Committee thought a smaller number would suffice and only seven hundred were printed, leaving only a small surplus, but sufficient. Quite a number of papers were rejected. About seventy pages of the last issue were taken up by the report of the Committee on Matters of Professional Interest in the State, a considerable portion of this being on the subject of Antitoxin in Diphtheria, which at that time was prominent before the medical profession of the country. We were fortunate in securing a valuable paper on the subject from Prof. Welch of Johns Hopkins University, one of our Honorary members. The Committee this year adopted a new departure in soliciting and procuring quite a number of papers read at the semi-annual or fall meetings and passing upon them, thus probably lightening the labors of the committee appointed at this meeting.

N. E. WORDIN,
JULIAN LAPIERRE,
W. H. DONALDSON.

Dr. Shepherd rendered the report of the Nominating Committee. It was accepted and the Secretary instructed to cast one ballot for the nominees. This was done and they were declared elected.

For President, Rienzi Robinson.

Vice President, Ralph S. Goodwin.

Assistant Secretary, Julian LaPierre.

Treasurer, W. W. Knight.

Committee on Matters of Professional Interest in the State, Leonard B. Almy, John C. Kendall, Charles J. Foote.

Committee to Nominate Physicians to the Retreat for the Insane, Henry Dontteil, Horace S. Fuller.

Publication Committee, Henry Fleischner.

Committee on Honorary Members and Degrees, Walter L. Barber, John G. Stanton, P. H. Ingalls.

Committee on Medical Examinations, John W. Wright.

Committee on Legislation, F. K. Hallock.

Committee to Prepare List of Medical Colleges, S. B. St. John, G. Eliot, W. G. Brownson.

Anniversary Chairman, William M. Hudson.

Committee of Arrangements, William D. Morgan, Ansel J. Cook.

Dissertator, Arthur N. Alling.

Alternate Dissertator, Francis N. Loomis.

Delegates to the American Medical Association: W. H. Donaldson, L. T. Day, C. B. Graves, G. Eliot, H. E. Smith, S. Overlock, F. H. Wiggin, J. Olmstead, A. E. Barber, John Benedict, W. T. Bacon, G. R. Shepherd.

Delegates to the Maine Medical Association, M. V. B. Dunham, H. W. Ring.

Delegates to the New Hampshire Medical Society, E. F. Parsons, F. W. Hewes.

Delegates to the Vermont State Medical Society, J. E. Loveland, E. P. Douglass, W. S. Munger.

Delegates to the Massachusetts Medical Society, F. W. Wright, F. M. Wilson, M. S. Hazen.

Delegates to the Rhode Island State Medical Society, Lowell Holbrook, N. Nickerson.

Delegates to the Medical Society of New Jersey, Carlisle Ferrin, Charles A. Tuttle.

Delegates to the New York State Medical Association, F. E. Beckwith, J. F. Calef, T. D. Crothers.

The regularly appointed members of the Committee on Honorary Members and Degrees, all being absent, Doctors Beckwith, Calef and Barber were substituted, and as it was too late for them to prepare a report, they were requested to make it to-morrow morning.

The Auditing Committee announced that the report of

the Treasurer had been examined and found correct. It was accepted.

A tax of two dollars was laid for the current year, and it was voted that seven hundred and fifty copies of the Proceedings be printed. The meeting of the President and Fellows thereupon adjourned.

The reception given by Dr. Swain on Wednesday evening was a very pleasant affair. Every guest was made to feel at home in the spacious mansion.

At the banquet on Thursday evening which closed the annual gathering, Dr. Rienzi Robinson responded to the toast, "The Connecticut Medical Society." Other sentiments were : "The Clergy," by Rev. C. E. Woodcock of Ansonia; "Our Patients," by Prof. E. H. Jenkins of Connecticut Experiment Station; "The Post Surgeon," Capt. James S. Pettit, U. S. A.; "The Press," Col. Norris G. Osborn.

Dr. George H. Fox was also present and enlivened the occasion by his ready response to the Toastmaster. The good night was said at 11:30.

N. E. WORDIN, Secretary.

THE ANNUAL CONVENTION.

THURSDAY, MAY 28, 1896.

The mass meeting was called to order by the President at 9:45 A. M.

THE SECRETARY'S REPORT

was the first thing in order.

The Secretary's report may be expected to show the condition of the Society somewhat in detail, its movement as it is called—the changes which are taking place in the membership.

Leaving to the President to speak as he may please of the affairs of government of the Society, let me say that no questions have as yet come up which have caused dissension or even discussion. There is harmony all through the Society as I have not known it before. Nor is it the harmony of indifference as the printed Announcement will testify. Besides, the reports of the various Clerks have never come more completely prepared or so full of detail. Very few corrections have been necessitated. It is to be hoped that none of the County Associations may change their present Clerks. Another improved condition in the working of the Society is the fact that the Secretary, at our assembling this day for literary work, has more papers than usual in actual possession. This lightens materially the work of the Publication Committee. Besides it is in compliance with that Section of the By-laws which makes it the duty of the Clerks to transmit to the Secretary, all papers destined for the transactions of the Society. The Secretary has eighteen papers and three obituaries now in his possession.

This shows attentive work on the part of the County Clerks. Many of these papers were presented at the semi-annual meetings of the Societies.

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The membership has not largely increased. But few have been dropped for non-payment of dues, I think an unusually small number. Quite a number have moved from the State. But few have died. Hartford, New Haven and Fairfield are the Counties which have suffered ; Litchfield also has lost one member.

It is impossible to give the number gained during the year or to tell the precise number at present. A question as to who is eligible to membership has arisen. The legal counsel of Mr. Gross, one of our honorary members, has been sought and his written opinion accompanies this report and will be printed in the Proceedings. While the decision is clearly expressed those personally conversant with the applicants—the County Clerks—are best fitted to decide in each case who, living a portion of the time outside the State, are entitled to become members of the Society. There are three names, concerning which your Secretary is in doubt. Leaving them out as uncertain, our gain in membership during the year has been seventeen, smaller than the average.

By Counties the numbers and changes are as follows:
Hartford—136, a loss of 1. New members, 8.

Died, 2.

Removed, 5.

Suspended, 2.

New Haven—168, gain of two. New members, 9.

Died, 3.

Removed, 3.

Dropped, 1.

New London—49, gain 2. New members, 6.

Moved, 2.

Dropped, 2.

Fairfield—115, gain 4. New members, 16.

Died, 4.

Moved, 5.

Resigned, 3.

Windham—37, gain 3. New members, 4.

Moved, 1.

Litchfield—46, gain 5.	New members, 8.
	Died, 1.
	Removed, 1.
	Dismissed, 1.
Middlesex—41, gain 1.	New members, 5.
	Moved, 4.

Tolland—18, no change.

Total membership, 610.

Gain, 17.

A view of this table, shows that Litchfield County has made the largest absolute gain, five; that Fairfield and Windham have each gained four; New Haven and New London each two; Hartford has lost one, and Tolland has had no change; that Fairfield has had the largest accession of new members and that there have been fifty-six new members in all. On the other hand, nine have died, twenty have moved out of the State, three have resigned and six have been dropped, dismissed or suspended for failure to pay their annual tax.

The new members are:

William Elry Caldwell, Balt. Med. Coll., '95, West Suffield.
Philip Dibble Bunce, A. B., Yale, '88, P. & S., N. Y., '91,
Hartford.

John Leopold North, Louisville, '94, Avon.

Homer Lyenrgus Law, Jefferson, '69, Hartford.

Herman Strosser, Univ. Berlin, '84, New Britain.

Milton Elias Dickerman, Yale, '93, Hartford.

Richard Sill Griswold, Bellevue, '96, Hartford.

John Bernard Boncher, P. & S., Balt., '94, Hartford.

Chauncey Stafford Lamb, Buffalo, '93, New Haven.

Robert Orton Moody, B. S., Cornell, '91, Yale, '94, New
Haven.

Edward Seymour Moulton, B. A., M. A., Oberlin, '91, Yale,
'94, New Haven.

Frederick Noyes Sperry, Yale, '94, New Haven.

William Francis Verdi, Yale, '94, New Haven.

George Hodgson Townsend, Bellevue, '93, Branford.

John William Henry Lapointe, Univ. Laval, Montreal
'92.

- Elias Wyman Davis, B. A., Yale, '80, Yale, '92, Seymour.
William Rowland Babcock, Univ. N. Y., '94, New London.
Norman Lucie Drake, Univ. N. Y., '91, Lebanon.
Carlisle Franklin Ferrin, A. B., Univ. Vt., '91, P. & S. N. Y., '95, New London.
Frank William Hewes, Univ. Vt., '94, Groton.
Thomas Weaver Rogers, P. & S., N. Y., '90, New London.
Henry Burt Stevens, Harvard, '94, Norwich.
Robert Gordon Levery, Univ. N. Y., '95, Bridgeport.
William Gerry Morgan, A. B., Dartmouth, '90, Univ. Penn., '93, Southport.
Frank Martin Tukey, A. B., Bowdoin, '91, Harvard, '94, Bridgeport.
William Wetmore Gray, B. S., Dickinson, '85, Bellevue, '90.
James Douglass Gold, Ph. B., Yale, '88, P. & S., N. Y., '91, Bridgeport.
Renben Arthur Lockhart, Yale, '91, Bridgeport.
Albert Lake Tuttle, Albany, '88, Bridgeport.
George Edward Lemmon, Bellevue, '85, Danbury.
Harriet Adaline Thompson, Woman's Med. Coll., Penn., '93, Bridgeport.
Willis Edward Weed, P. & S., '83, Ridgefield.
Charles Franklin Craig, Yale, '91, Danbury.
John Alexander Wade, Bellevue, '93, Danbury.
Andrew Melville Ewing, C. M., Trinity Univ., '86, M. R. C. S., '88, Fairfield.
Ernest Herman Smith, A. B., Amherst, '85, P. & S., N. Y., '89, Redding.
Henry Clifford Shores, Univ. N. Y., '92, South Norwalk.
John Timothy Kennedy, Univ. N. Y., '94, South Norwalk.
Ezra Barker Pike, Bowdoin, '97, Abington.
Henry Russell Lowe, Dartmouth, '82, Woodstock Valley.
George William May, Milwaukee, '95, Willimantic.
Charles Milo Knight, Louisville, '93, Chaplin.
Walter Milo Barnum, P. & S., N. Y., '83, Kent.
James Robert Bolton, Univ. N. Y., '86, Litchfield.
Salmon Giddings Howd, Jefferson, '83, Winsted.

Etta May Hadley Judd, Woman's Med. Coll., Phila., Litchfield.

Howard Doolittle Moore, Bellevue, '87, Riverton.

Charles Ithemor Page, P. & S., N. Y., '90, Litchfield.

William Spencer Richards, Univ. N. Y., '89, West Winsted.

George Edwards Stanb, L. I. Coll. Hosp., '93, New Milford.

James Murphy, Univ. Pa., '95, Portland.

Lewis Maitland, Univ. Pa., '95, Middletown.

Daniel Andrew Nolan, Ph. G., Medico Chirurg. Coll., Phil., '95, Middletown.

William Hugh Wilson, P & S., N. Y., '77, Middletown.

Of these eleven, or one in five, have some academic or scientific degree in addition to their medical degree ; eight have taken medical degrees each at Yale and the College of Physicians and Surgeons, N. Y.; seven at the University of N. Y.; six at Bellevue, while eighteen other medical colleges are represented in the list.

The dead are:

Ashbel W. Barrows, 1841.

Amos L. Williams, 1841.

David L. Daggett, 1843.

Irving W. Lyon, 1862.

Michael A. Cremin, 1872.

Harry M. Burtch, 1882.

Edward G. Madden, 1885.

Lawrence S. Bulkley, 1889.

E. J. Meeks, 1890.

Doctors Barrows and Williams, both graduates of the same year, were among the number mentioned at the Centennial Anniversary who had served continuously as members of the Society for fifty years. Dr. Barrows was born in 1816, and spent most of his professional life in Hartford. He was one of the six original physicians of Hartford Hospital. He was made President of this Society in 1876. His address on "The Malarial Fevers

of New England" attracted much attention and gave him such a reputation that he was called soon after to testify as an expert in an important trial in Berkshire, Mass. He died suddenly last January.

Dr. Williams was struck by a train on the Berkshire Division of the Consolidated Railroad while he was returning from visiting a patient. He had spent sixty-three years in the practice of medicine—a practice which extended for miles around Brookfield, into the towns of Bridgewater, Newtown, Sherman, New Fairfield and Danbury. He held in his own town for more than half a century, the offices of Registrar and Medical Examiner.

Dr. Lyon was descended from Puritan stock, who came to this country in 1630, and the characteristics of his ancestry were marked in the vigor and earnestness of his life. Matriculated in the College of Physicians and Surgeons, N. Y., in 1862, he enlisted in the army and served in Tennessee as Acting Assistant Surgeon. He was Demonstrator of Anatomy in the old Berkshire Medical School; served on the house staff of Bellevue Hospital. He devoted much time to antiquarian studies and had a large private collection of porcelain and colonial furniture and had written a book entitled, *The Colonial Furniture of New England*. He was most careful in the selection of young physicians whom he recommended for Examiners in the Life Insurance Company with which he was connected. At our meeting last year, he occupied the double position of Vice-President of this Society, by virtue of his position as President of the Hartford County Association, and was also Chairman on Matters of Professional Interest in the State. His work in that capacity was painstaking, full and able, adding much to the value of our Proceedings. He also served as Chairman of the Nominating Committee. He would enjoy the fruits of his labors in this convention if he could be with us to-day.

N. E. WORDIN, Secretary.

Dr. Beckwith, making some complimentary remarks, moved that the report be accepted.

Dr. Kendall.—The Secretary stated that he had dropped two names from Litchfield County. I would like to inquire why he has done this. The Litchfield County Association would like the men as members. They are not transients; they have been living for years in Norfolk. Dr. Bulkley has lived in Norfolk for ten years. Dr. Dennis is identified with Norfolk more than with any other place.

The Secretary replied that while he had not mentioned any County in speaking of names omitted, it is true that two of the names were in Litchfield County. An application had come to him for membership from a person outside the State. He replied that he did not think the person eligible because not residing in Connecticut as prescribed by the By-laws. That person was subsequently reported as a member by the County Clerk. The Clerk of the Litchfield County Association had also reported as members two well known New York physicians and it seemed as if the time had come to find out what the limits of membership were and what principle should determine them. The Secretary had consulted with the President who had authorized him to seek legal advice in the matter. He had applied to Mr. Gross, an Honorary member and one much interested in the Society. He had given a clear and complete opinion, but the facts required for determining who had a residence in the State were such that the County Clerks, who knew the personality of the men, could tell whether they were entitled to membership, better than the Secretary could.

The opinion as given by Mr. Gross was called for. The Secretary read the communication.

OFFICE OF GROSS, HYDE & SHIPMAN,
HARTFORD, May 21, '96.

To the Secretary of the Connecticut Medical Society,

MY DEAR SIR:

You have submitted to me certain questions concerning eligibility to membership in the Connecticut Medical Society.

Chapter I, Section 1, of the By-laws provides :

“ This Society shall be known by the name of the Connecticut Medical Society; and shall be composed of the several County Associations, formed of active members, residing in this State and of Honorary members, not residing in this State.”

Chapter IV, Section 1, provides for County Associations of the members of the Connecticut Medical Society.

Chapter IV, Section 3, provides the method of admission of members to the Society:

1. They must make application to be admitted to membership in the Connecticut Medical Society.

2. They must be elected by major vote by ballot of the members of the Society present at any regular meeting of the County Association in the county where said persons reside.

Section 4 provides that the persons so elected shall, within one year after election, subscribe to the By-laws of the Society or otherwise declare in writing their assent to the same, otherwise their election shall be void.

Section 5 provides that “ any County Association may by a major vote, dismiss from the Society any member of their county who shall remove from the State.”

Section 6 provides for the dismissal of a member at his request and for the suspension of members who are delinquent in the payment of taxes.

Section 7 provides for the expulsion of a member.

Chapter V, Sec. 5, provides that “ the privileges and

obligations of membership revert to a regular physician on returning to the State."

These By-laws at first may seem to be somewhat inconsistent, but in my opinion they can be easily reconciled, and have, when taken together, but one proper and reasonable interpretation, which is as follows :

First: In order to become a member of the Connecticut Medical Society a person must

1. Be a legal resident of the State.
2. He must make application for membership.
3. He must be elected by ballot by a major vote of the County Association.
4. He must subscribe or give written assent to the By-laws.

Unless he has a legal residence or domicile in this State he cannot become a member.

Residence, when a test of eligibility for office, means a legal residence or domicile, and, ordinarily, citizenship.

A man may be a legal resident, however, and not an elector in this State; but he cannot have a domicile in this State if he exercises the rights of an elector in another State.

Residence is the result of intention.

Affirmative evidence of such intention is sometimes difficult to obtain; but negative evidence if produced is almost invariably conclusive.

For instance, many men have their legal residence in this State, vote and pay taxes on their entire personal property in this State, yet reside regularly for several months in each year in New York where they carry on their profession or business. Such men, if practicing physicians of good moral character and having the other qualifications prescribed by the Charter, are eligible to membership in your Society, and the fact that they are members of some of the New York Societies is not material, so far as you are concerned.

If, however, these men exercise in New York the right

of citizenship, vote and pay taxes on their personal property in that place, then there is their legal residence and they are not eligible to membership in your Society.

A mere temporary abiding in a town in this State, or keeping and using a summer residence for some weeks in each year, will not give the party a residence in such town. A summer resident is only a sojourner.

I have endeavored to state this as clearly as possible, for the reason that during the past six years (since the act of 1889 was passed authorizing the exemption from taxation of bonds, notes, etc.,) many former residents of New York have moved into this State, with the intention of making this State their residence in complete good faith, and are now legally domiciled here, but they still continue in business in New York City, staying there continuously during several months in each year.

Second : The next question relates to the status of those who have been regularly elected members of the Society and have subsequently removed from the State.

If a member has removed from this State, and changed his residence to another State, then, in my opinion, he has ceased to be a member of your Society; for Chapter I, Sec. 1, provides that the members shall be the active members of the County Associations residing in this State.

If, however, the member has only temporarily removed from this State, then he remains in a condition of voluntary suspension, so to speak, unless he is dismissed by the County Association under the provisions of Chapter IV, Sec. 5. If not dismissed, and if he does not cease to be a legal resident of this State, during his removal, then upon his return to the State the privileges and obligations of membership revert to him under Sec. 6 of Chapter V, of the By-laws.

In my opinion the provisions of the Medical Practice Act do not have any bearing upon the questions of membership in your Society under your Charter and By-laws.

Section 14 of said act expressly provides that nothing in

said act shall be construed to repeal or affect any of the provisions of any private charter. Registration under the provisions of that act does not in any way render the party eligible to membership in your Society. He can only come into the Society by showing that he is a legal resident of some county in this State and by making application to the County Association in that county and by being elected by ballot by a major vote of the members present at the meeting.

I believe the above answers all your questions.

Very truly yours,

(Signed) CHARLES E. GROSS.

Dr. Kendall.—In looking for a candidate for Governor or for some political office, the test given in the opinion read might be applied, but to apply it to a scientific society is ridiculous.

Dr. Carmalt would not say anything to reflect on our desire to have Dr. Dennis as a member. It would be unworthy of the Society to do that. Dr. Dennis occupies a high position in the medical profession. Inasmuch as the Committee on Honorary Members has not yet reported, I propose the name of Dr. Dennis as an Honorary member of this Society. No man in the Connecticut Medical Society has any reflection on those men. The position in which they are placed conflicts with the By-laws of our Society.

Dr. Edgerton.—Perhaps the By-law which has been amended to-day, making those only eligible who have resided in the State one year and in the County six months, will settle it.

Secretary.—But that is the point. The question is one of residence.

The Committee on Honorary Members here rendered a report, but as it was incorrect they were allowed to retire and prepare another one.

Dr. MacLaren moved to admit Dr. Bulkley.

Secretary.—But that doesn't settle the question. It

only postpones it. It elects these men but doesn't determine the principle. How am I to be guided as Secretary in the year to come? I want the Society to establish a principle for my guidance.

It was moved to consider the names separately. This was adopted. The motion was then passed to approve the action of Litchfield County in the election of Dr. Bulkley. A motion was thereupon made to confirm the name of Dr. Dennis as a member of the Litchfield County Medical Association. This was carried.*

A motion was again made to accept the Secretary's report as amended.

Secretary.—Gentlemen, I object. The Secretary's report, as it stands now, is unjust and unfair. You have decided upon only two names. I mentioned three. What will you do with the third name? You have established no principle.

Dr. Edgerton.—We are treading on dangerous ground. We have made this a personal matter in violation of a principle. There is no valid reason in what we have done. The Secretary has taken a position; he has attempted to define a law. If a man is an elector that is enough to entitle him to membership. We have attempted to get out of the difficulty by making one man an Honorary member. Don't let us make any more muddle, but let us confirm the action of the Windham County Society. This was lost.

The report of the Secretary was accepted.

The Committee on Honorary Members reported that they recommended the election of the nominees of last year, Doctors T. M. Prudden, W. W. Keen and T. G. Thomas, and proposed for next year Doctors William T. Lusk, James W. McLane and Landon Carter Gray, of New York. This was adopted and the gentlemen elected.

The report of the Committee on Matters of Professional Interest in the State was then read by Dr. C. S. Rodman.

* This increases the membership to 612 and makes the gain of Litchfield County seven instead of five as reported on page 48, the entire membership of Litchfield County being forty-eight and the total gain of this Society, nineteen.—Secretary.

The discussion of the subject which followed, will be found immediately following the report.

In response to the call for Delegates, Dr. Ira J. Prouty from Keene, N. H., said: I bring greetings from the Granite to the Nutmeg State. My coming, however, is saddened by the fact that my colleague, Dr. Russell, selected by my Society to accompany me, died a few weeks ago. New Hampshire and Connecticut have many things in common. They have the stripe on the flag, the river flowing through and binding together both States, and Dr. Nathan Smith, of whom both States are proud.

Dr. W. H. Aldrich, from Marlborough, followed:

At first sight I would seem to be a usurper. My colleague said that the delegate chosen in my place has died. But I am pleased to be able to come to your beautiful city and to your honored Society. It is the first time I have been in New Haven. I shall go home and tell of the good time and the good things I have had while here. I hope we shall be more intimately connected. I hope to see you at our meetings and that more friendly feelings may prevail among us.

Dr. C. H. Calkins, of Springfield, had enjoyed the morning very much and was pleased at the reception he had met with. He hoped to see many at the Boston meeting which occurred in a few days.

Dr. Wesley Davis, of Worcester.—It gives me great pleasure to bring you the greetings and the best wishes of our State Society. I have enjoyed everything very much. I want to allude to the great meeting held at Atlanta. Dr. Osler characterized the Woodbridge or anti-septic treatment of typhoid fever as heretical. We tried it in Worcester at the hospital. Out of twenty-five or thirty cases all recovered. Outside in the city the recoveries were twenty per cent. Leaving out the period of stupidity the patients had a pleasant time going through the fever. According to his experience he would rather

be called a heretic and have his patients get well than orthodox and have them die.

Dr. E. B. Silver, Rahway.—I bring warm greetings from the ancient Society of the State of New Jersey. In June we have our one hundred and thirtieth annual. I bring the fraternal regards to one of our oldest children. This is the first time I have ever put foot in New Haven and indeed it is a haven. I don't know when I have felt so rested or so safe as I have here under the care of those who have entertained me. I shall go home with kind feelings and shall hope to see some of you at our meeting.

Dr. Hill, the President, made a felicitous response, inviting the gentlemen to share our bread and pills.

There being a few moments before twelve, Dr. Hawkes was called upon and read a paper entitled "A Suggestive Case of Epilepsy Following Trauma: Trephining."

Dr. Hill then introduced the President-elect who made a few remarks: I need not say that it gives me pleasure to have received the highest honor which it is in your power to bestow. But the retiring President is waiting to give you what he has stored up and I will not detain you further. I take pleasure in announcing the address by Dr. Seth Hill.

After the reading of the address, Dr. Donaldson said he did not like to allow such an address to go unnoticed but he had been waiting for some one else. He moved that the address be referred to the Committee on Legislation with power to act. Adopted.

The morning session was adjourned to two o'clock.

THE AFTERNOON SESSION

was called to order at 2:15.

Reports of Delegates to other Societies was announced to be the first thing in order. Drs. Wiggin and E. P.

Douglass had prepared reports of the American Medical Association.

REPORT OF THE ATLANTA MEETING OF THE
AMERICAN MEDICAL ASSOCIATION,
MAY 5, 6, 7, AND 8.

BY FREDERICK HOLMES WIGGIN, M.D.,

OF LITCHFIELD.

Mr. President and Fellows of the Connecticut Medical Society:

In the furtherance of my duties as a delegate from your honorable body to that great national medical assemblage, the American Medical Association, I visited Atlanta, Ga., on May 5th, 6th, 7th and 8th, and found myself, after my arrival, in company with several other members of our Society, but alas, the number was far from what it should have been. The gathering was a fairly large one, but less than assembled at Baltimore last year. The Association was called to order at 10:45, on the morning of May 5th, by the President, Dr. Beverly Cole, of California. The exercises were opened by a prayer by the Rev. Dr. McDonald. This was followed by an eloquent address of welcome by Dr. Frank M. Ridley of La Grange, Ga., the concluding words of which were as follows:

“ You gentlemen have come to further advance in your special sections the principles which these pioneers promulgated, and ‘ they builded better than they knew.’ In behalf, then, of my profession, I bid you greeting here on this typical Southern May day, ‘neath as lovely a sky as ever blessed the vision of Mantua bard,’ in a veritable atmosphere of hospitality as bright as our sunshine and as sweet as the breath of the roses which bloom in our wildwood. I bid you welcome, thrice welcome, to this happy, prosperous, proud old Commonwealth.”

Hon. John Temple Graves, in the unavoidable absence of the Governor, responded for Georgia. He began his speech by calling attention to the especial applicability of the prayer offered by the Chaplain, and said :

“ Beyond the ascription of praise to the Divine Power, which is always appropriate, it seems to me that the assembling of a thousand doctors should be the occasion of prayer and profound concern to all classes of people. While the reverend and distinguished gentleman did not mention it specifically in his prayer I think in his spoken aspiration to the hereafter, he voiced the silent longings of this vast audience for a resting place in some better country, ‘ where the doctors cease from troubling, and the lancet is at rest.’ Referring to the local profession, he said : ‘ Our doctors here are almost without exception, millionaires. They practice only on the stranger within our gates. They live in stately mansions, drive in splendid carriages and spend their time, when not engaged in searching the sacred recesses of the human abdomen and bringing to the unwilling light, useless, obscure and infamous appendices, in thumping the soundest of livers, and in feeling the steadiest pulses that ever beat in unison with the hope and progress of the healthiest and bravest city of the South ’; and in conclusion he said: “ Turn your stethoscopes upon us; level you heartscofes, your brainscofes; try us with the Roentgen rays of all intuitions, and you will find that Atlanta—city of conventions—abating no jot or tittle of the sincerity of any past professions, has held in her heart her last and most loving welcome for the doctors of America.”

The President followed with his annual address, which dealt largely with the year's work in medical science. He deplored the fact that so many operations for the removal of the ovaries, appendices, etc., were performed, and that so many physicians with little or no surgical training felt competent to undertake such grave surgical procedures. He condemned the superficial medical education with which many medical colleges equipped their students for practice, and on which diplomas are being granted. He thought that the law should be so modified that doctors could not practise before they were fit for the serious duties of their calling. Relative to making ex-

aminations for life insurance companies, he said that no man qualified to make a thorough examination, if he be properly imbued with the value and importance of his service, will or can assume the responsibility attaching to his function as an examiner, without an adequate return. Surely the fee of \$5.00 was small enough; and the offer of any less sum is simply an insult to the educated physician and a bid for cheap, unscientific service.

At the general session held on the morning of May 6th, the main feature of interest, aside from an unsuccessful effort that was made to oust the permanent Secretary, Dr. Atkinson, from his position, was the address on Medicine which was delivered by Prof. William Osler, and was entitled, "The Study of the Fevers of the South."

He began his address by stating that "humanity has but three great enemies, fever, famine and war, of which by far the greatest, by far the most terrible, is fever. It is worthy of comment that three of the greatest benefits conferred on mankind, beside which it would be hard to name three of equal importance, have been in connection with the fevers, the introduction of cinchona, the discovery of vaccination, and the announcement of the principle of asepsis." In referring to the treatment, he said:

"Advances in the treatment of fevers, and especially of typhoid, have not kept pace with the rapid progress in our knowledge of the etiology. In the present condition of bacteriology we may hopefully expect great things in the near future, but meanwhile we jog along without any fixed aim, too often carried away by winds of doctrine and wild theories. Still it is something to have escaped from the restless activities of our grandfathers. They were not all, however, of the same stamp. If I had typhoid fever, and had a theosophic option as to a family physician, I would choose Nathan Smith, nor would I care whether it was while he labored in the flesh in the little town of Cornish, N. H., in 1789, or after he had become the distinguished Professor of Medicine in Yale;" and again:

"I must claim the privilege of a faddist, to abuse roundly other faddists, who do not swim in my puddle as a strong advocate of hydropathy. I take especial pleasure in denouncing as heretics of the worst possible stamp, the advocates of the so-called antiseptic and abortive methods of treatment of typhoid fever. I would place the man who does not for this purpose also give a purge, in a limbo, just a little less hot, as he probably does a little less harm." The address was concluded in the following words:

"To us as a profession belongs the chief glory of the century. Enormous as has been the advancement in material prosperity, and wide-spread as has been the diffusion of benefits from the developments of the physical sciences, they cannot compare with the progress which has been made in the relief of suffering, and in the prevention of disease. Our work here ranks among the most memorable achievements in the history of the race. Fever in its varied forms is still with us and, as I said at the start, the century has seen in connection with it but one discovery of the first magnitude, but it is of almost equal importance to know that the way has been opened, and that the united efforts of many workers in many lands are day by day disarming this great enemy of the race."

The chief matter of interest of the general session held on May 7th, the third day of the meeting, was the address on surgery, delivered by Dr. Nicolas Senn, which was entitled "On some of the Limits of the Art of Surgery." Dr. Senn said in part:

"Modern surgery has attained a degree of development which entitles it to the distinction of a science and an art. As a science surgery is of recent date, having been founded and perfected during the last half of the present century. As an art it has been practiced for centuries by our ancestors, with credit to themselves and benefit to the injured, the crippled and the sick. When Boyer wrote the introduction to his classic work on surgery he expressed the conviction that surgery had reached

perfection. How little did he dream of the great changes that would be wrought in the practice of the cherished profession by the progressive pathologists and surgeons of the next few generations. What a contrast between the standing of the surgeon of to-day and his colleagues of only a century ago ! It is not long since the art of surgery was limited in bleeding, cupping, leeching, setting of a broken limb, reducing a dislocation, stanching hemorrhage, opening an abscess or amputating a limb for injury or disease beyond the reach of conservative measures."

In alluding to the present craze for surgical operations, the speaker said:

"The furor operativus manifested in special departments of surgery, and its obvious results, render the standing and legitimate scope of the general surgeon very uncertain and indefinite at the present time. Let the general surgeon turn to the right or to the left, advance or retreat, and he finds himself on reserved territory. As for the physician, he is expected to answer night calls, prescribe for diarrhea and whooping-cough, watch cases of typhoid fever, measles, scarlatina and small-pox, and should complications arise and he does not report to the proper authority, he renders himself liable to censure.

Much of this ill-applied energy in the surgical world has resulted in detriment to patients and in retarding actual surgical progress. Operative surgery has been carried to extremes. A calm inspection of the ground that has been gone over will show some of the limits of the art of surgery."

Dr. Senn then devoted his attention to antisepsis and asepsis. In condemning the too frequent use of the knife, he said: "Is it not a fact that the abdomen is being opened daily by men who have not the faintest idea of what they may have to do, simply because they regard such a step as harmless and free of danger, and the shortest and easiest way to make a diagnosis ? To say that

such a blind confidence in the efficiency and safety of aseptic precautions is not in accord with the work of the conscientious surgeon is to put it mildly. It is fortunate for the patients of such every-day self-confident operators that the peritoneum under ordinary circumstances can dispose of more pathogenic microbes without harm resulting than any other tissue of the body. If it were not such a serious matter, it would be amusing to see how such men explain an occasional death that occurs in cases where it was least expected."

And again he said:

"When I arraign the gynecologists before this body, composed of representative medical men of this country, for innumerable and inexcusable transgressions of the rules which ought to govern and control the art of surgery, I do not include the scientific workers in that department of surgery, but my remarks will apply to a class of routine operators which has recently grown to alarming dimensions not only in this, but in nearly every country which has been penetrated by the dim rays of so-called bold surgery. It is a subject that I would gladly pass over in silence, but you have imposed upon me a trust which I cannot ignore, and I stand here in the capacity of the conservative element in these days of wild, unfounded surgery, to place myself on record in protesting against the unnecessary mutilation of the sexual organs of either sex, willing to stand or fall by the sentiments of the great mass of general practitioners, which, after all, must be regarded as the backbone and final tribunal of our profession."

THE NEW GENERATION.

"The new generation of doctors finds no longer satisfaction in practicing their profession in some rural district. The young practitioners have their eyes on large cities, and have heard of enticing fees paid to specialists for insignificant operations. Why buy a horse and saddle-bags when a fortune awaits them in devoting them-

selves to a specialty, more particularly gynecology ? The recent graduate or the man who has become disgusted with country practice seeks a much employed gynecologist, follows his work for a month or two and returns to his prospective field of labor, a full-fledged specialist. He is now ready to extirpate the uterus, remove ovaries and fallopian tubes, sew up imaginary lacerations of the cervix and perineum. Do you suppose that such an aspirant for gynecologic fame ever examines a woman and finds her perfect ? Is it not true that in nine cases out of ten, he finds something to mend ?”

At the general meeting held on the fourth day, May 8th, the interest centered on the report of the Nominating Committee, on which I had the honor to serve as a representative of Connecticut. The names of the principal nominees who were unanimously elected, were as follows:

President—Prof. Nicolas Senn of Chicago.

First Vice-President—General Sternberg of the United States Army.

To deliver the address on Medicine, Prof. Anstin Flint of New York.

That on Surgery, Prof. W. W. Keen of Philadelphia.

That on State Medicine, Dr. Jerome Cochrane of Alabama.

It also was decided that the next meeting should be held in Philadelphia during the first week of June, 1897.

Of the work done in the individual sections, it would be impossible in this report to allude in detail; suffice it to say that the papers were of more than usual interest and value. Before closing this report, it would seem necessary to briefly allude to the social functions attendant upon the meetings, which fully realized the hospitable greetings of the welcoming addresses.

Said the editor of the Journal, in closing his report of the meeting:

“Socially, the Southern hospitality, which is always conspicuous at these gatherings, made itself felt in such

a way as to make every delegate feel at home. The visit to the charming home of the Thompsons at Brookwood, the Georgia barbecue, and the receptions at the houses of Drs. Calhoun, Ridley and Todd, are occasions to be long remembered. Indeed, if there is any criticism it is that Dr. Westmoreland and the Committee of Arrangements and citizens did too much to make the visit of the members agreeable and pleasant."

REPORT TO THE AMERICAN MEDICAL ASSOCIATION IN ATLANTA, 1896.

BY E. P. DOUGLASS, M.D.,

OF GROTON.

Mr. President, Fellows and Members of the Connecticut Medical Society:

As your delegate, it was my pleasure to attend the last meeting of the American Medical Association, which convened in Atlanta May 5th-8th. There was an estimated attendance of a thousand.

The general session was held in the Grand Opera House, which had been beautified by many flowers and plants.

The President, supported by the various officers and speakers, was on the platform to call the house to order, 10:30 A. M. Tuesday, May 5th, and it was inspiring to see such an array of medical talent, to say nothing of the beautiful women who graced the occasion by their presence.

From Connecticut I met Drs. Crothers, Johnson, Brayton, Graves, Buckley and Wiggin. Later, Dr. Wiggin was chosen to act on the Nominating Committee.

After prayer, we were entertained by an eloquent and scholarly address of welcome, on the part of the profession, by Dr. F. M. Ridley, who enthused his audience by his warm words of welcome and good feeling, and his

scholarly bearing and oratorical powers made us all proud that he belonged to our profession.

If there were any present who were gloomy and anxious about the cares at home, the witty address of welcome on behalf of the citizens of Atlanta by Honorable John Temple Graves, the celebrated lecturer, must have effectually dispelled the cloud, and made them thankful they were one of the M.D's. present.

Without note or break in his eloquence, he held his audience spell-bound, from beginning to end, with his ready wit. This is a specimen:

“Dr. Ridley has spoken the professional welcome of the city and State; I speak for the helpless multitude, the outsiders, your victims, who languish under your lancets and are riddled by your horrid pills.

“I thank heaven we have corralled you at last within the prison of our hospitality. You are harmless here. The geographical limit of your licenses has expired and the city is safe. If we should remove the legal ban, if we should turn loose a thousand doctors on this helpless town, if we should add to the eager skill of our own professionals, the expert genius of this great convention, there is not a liver in Atlanta that would be safe to-night. We support 200 physicians in this happy town—maintain them in the most lavish splendor, and in the most indolent leisure. There is nothing here for them to do. In the elixir of this incomparable air and under the blue of these cloudless skies, there is no ailment that an old woman's nostrum will not cure. In the desperation of their idleness, our physicians have been forced to forage.

“In the poverty of actual causes, they have reached down in the sacred recesses of the abdomen, and dragged to the unwilling light, a useless, obscure and infamous appendix, on which to exercise their leisure and vindicate their skill.

“They practice mostly on strangers within our gates. They live in stately mansions, drive in splendid carriages,

and spend their time in thumping the healthiest of livers, and in feeling the steadiest pulses."

The President's address was a masterly effort, pointing out the successes and failures of the Association in the past, and indicated some lines to continue its future success.

The paper of the day, May 6th, was by Dr. Osler, of Johns Hopkins University: "The Importance of Fevers in the South." He referred to the fact that humanity had three great enemies to contend with, fever, famine, and war, and three of the greatest benefits had been conferred upon mankind from the prevalence of fevers, cinchona, vaccination, and antiseptis.

He thought typhoid was the deadly fever of America to-day, and pointed out its differentiation from malaria and other fevers; spoke of the contrast of its treatment to-day and the beginning of the century, and severely criticized the so-called Woodbridge abortive treatment of typhoid, which is the rage in some places.

The paper of the day, Thursday, May 7th, was: "Some of the Limits of the Art of Surgery," by Dr. Nicolas Senn, Chicago.

This production was a masterpiece in the interests of conservative surgery, and severely criticised the bold operator of whatever specialty, who saw in every patient the necessity of a radical operation or an exploratory incision, and mentioned many fatal blunders which had been made, and which resulted in retrograde of real scientific procedures. The author laid great stress on the onslaught on the male and female generative organs, and declared "that the frequency with which women are castrated, is the most flagrant transgression of modern surgery, that it was not unusual for a zealous operator to exhibit five or six normal ovaries, from a half day's work, justifying this procedure with one excuse or another; that the number of women minus their organs of generation are beginning to cry out against this method, as

the promised and dearly bought relief does not come. What will be the next battle-ground for the aggressive gynecologist is hard to foretell, as the vagina, clitoris, fallopian tubes, ovaries and ligaments have been sacrificed one by one from the result of this wild furor."

For the same reason the author would plead for conservatism in the castration of the male, for hypertrophy of the prostate, and feared the day near at hand, when this procedure would be resorted to for stone in the bladder, cystitis, and malignant disease of the bladder.

I attended the Sections on General Practice and Surgery. Was especially interested in a heated discussion on the pros and cons of the Woodbridge abortive treatment of typhoid. There were many strong advocates of this treatment, but the majority thought it rather incredulous that any drug or combination of drugs could so thoroughly disinfect or render antiseptic twenty-five feet of intestine, as to kill the bacilli and spores, without killing the patient.

Also a paper by Dr. J. A. Grosvenor, of New York, on the Action of Alcohol on the Special Senses, precipitated an interesting discussion.

The author claimed that by his experiments, which had been conducted with a great deal of care and nicety, he had demonstrated that alcohol in all conditions and doses, was a paralyzer, and this was its only action. Some warmly agreed, but the majority claimed this to be entirely opposite from their clinical experience.

The American Medical Association had May 1st, 4,876 members, and \$10,084.98 in the treasury.

I will give you a very curtailed idea of how hospitably and generously we were entertained.

Tuesday evening, we were given a choice entertainment, by the Southern Female College, consisting of both instrumental and vocal music, which reflected great credit on themselves and pleasure to us. This was followed by a reception.

Wednesday afternoon, occurred the old-fashioned Geor-

gia Barbecue, which I must confess was a great curiosity to me.

Through the courtesy of the Southern Railroad we were taken to Lithia in two long sections, arriving soon after 2 p. m., in a beautiful grove of Georgia pine, where the Lithia water was very abundant, and on this occasion a good many kegs in a shady nook, covered with ice, which was not Lithia. It was interesting to see about one hundred and fifty sheep and shoats in these pits, beautifully roasted, and then to see a thousand M. D's. stand around long tables, feasting on these delicacies, leaves a pleasant impression. We returned about 6 p. m., well satisfied with the outing and with a grateful feeling for the Georgia Barbecue.

Thursday at 3:30 p. m. began a grand and beautiful bicycle parade of five companies, of thirty each, dressed in wheel attire, with wheels beautifully decorated with choice roses, heralded by coach loads of beautiful women and brave men, grand equipages of different kinds, the charming May Queen drawn by cream-colored horses, and little tots in their pony carts, bedecked with a great variety of roses, all bound to Brookwood Park to the Bicycle Meet and reception.

After spending two hours in this beautiful park, with its charming surroundings, we departed to our hotels, to prepare for the greatest of social events, the grand receptions to be held in the evening at Drs. Todd's, Ridley's and Cochran's.

I should judge that each tried to outdo the other in hospitality, decorations and provisions for their guests.

Atlanta's beautiful and noble women did much to make this occasion a great social success.

If any left their homes with the thought that the South still entertains an unfriendly feeling, those ideas must have been pleasantly and effectually dispelled, by their warm welcome, deferential courtesy, and unstinted and whole-souled hospitality.

Respectfully submitted,

E. P. DOUGLASS, Delegate.

Dr. G. N. Lawson.—It gave me pleasure to visit the Vermont State Medical Society, last October. It was very enjoyable. The Vermont hills were at their best with their Autumn coloring mirrored in beautiful lakes. The attendance at this meeting was one of the pleasant events of my life. A side trip was made to one of these lakes where a cavalry parade was held for our benefit. I enjoyed it all very much.

REPORT OF DR. T. D. CROTHERS, DELEGATE TO THE RHODE ISLAND MEDICAL SOCIETY.

The Rhode Island State Society meets quarterly at Providence. The railroad system is so extended that every member can reach Providence in an hour or more from any point of the State. Hence the meetings begin at ten A. M. and close at three P. M., permitting all members to be present, and attend to business night and morning of the same day.

The custom is to have two or more formal papers, the address of the President and the relation of cases, followed by an informal dinner or lunch, and a formal adjournment by three or four P. M. I was present at two of these meetings, and heard several very interesting papers, which were noted for excellent practical conceptions of the subject. In the reports of clinical cases, it was evident that very little consultation from physicians out of the State was sought.

Difficult cases were treated at home or in the City Hospital at Providence, and the diagnosis and treatment were determined by the local and Hospital physicians.

In the reported cases there were evidences of much skill and good judgment, as well as familiarity with the practice of the leading authorities of the country. I think it is true that the members of this Society may be considered more "all round physicians" than in other States.

This is said to be the result of a greater variety of duties which fall on the country, village and factory physici-

ians, requiring instant attention, and from the general absence of specialism, each one finds it necessary to do work in all departments of practice.

This Society has a library which contains eleven thousand volumes and reports, which are open to the members. The supply of books appears to come from donations by the members and others, and is a most excellent way to preserve books and reports which will be of great value in the future. In this the Connecticut State Medical Society would find a most practical way of preserving the books and pamphlets of its members. The Society has a prize essay fund of \$300, called the Fisk Fund, which is offered this year for the best essay on "The Etiology, Pathology and Surgical Treatment of Diseases of the Prostate Gland."

The Society numbers two hundred and twenty-four members, and it is a pleasure to report that the scientific interest, and fraternal spirit among the members are very pleasing, and satisfactory. The officers of the Society were very courteous and attentive to the delegates.

T. D. CROTHERS, M.D.

Dr. J. R. Topping attended the meeting of the New York State Medical Association last October, and was glad to carry the greetings of the Connecticut Medical Society. He returned and hoped our shadow would never grow less. It couldn't with such an enormous hill in the chair. He was entertained by President Flint and Dr. Ferguson, the Secretary. The papers were good, practical and to the point. The supper was good and everything was satisfactory.

Dr. Howe read the report on the Progress of Surgery. He stated that in the arrangement of the subject he had agreed to take the head, chest and all above the diaphragm, while Dr. Carmalt took all the parts below.

Dr. Simpson read the Dissertation, "The Diagnosis and Treatment of Apoplexy."

Dr. Loomis gave a practical demonstration, as he said, of what he had been doing in his office. Within two

years, Prof. Leonard has done everything that Roentgen has, and Prof. Roentgen in two articles gives him credit. But Roentgen awakened interest by showing the invisible in the human body. To photograph by electricity it is necessary to have a battery and coil. The coil must be a large one. A characteristic of this electricity is its enormous voltage and its small ampereage. The voltage of ordinary electricity is light, 25,000 ; that required for this purpose is 50,000. Each inch of spark requires 50,000 to 75,000 volts, and the books say that for the Roentgen pictures three or four inches of spark are necessary. At his home he has no coil but a static electric machine. There is a feeling among the profession to pooh-poooh at electricity, but there is a legitimate place for it. I know of families who employ quacks because the quack does what the physician does not. My machine makes a fourteen inch spark. Crook's tube is a bulb with all the air pumped out. When a spark is passed through it the light is pale green. The Gessler tube tells which is the positive and which the negative pole. The negative pole is the part of the Crook's tube which takes the photograph. To take a picture connect both poles of the Crook's tube with the coil and start the current. The photograph is taken without a camera : Take an ordinary photographic plate, put the tube six or eight inches under it, the material to be photographed over it. The rapidity of the process depends upon the length of the spark. Photographs were passed around. Two of them were made for surgical purposes in his own practice. A girl got a needle in her foot. Her physician failed to remove it ; it is not an easy thing to do. The photograph showed where it was located and its removal was easy, but without the photograph it would have been difficult. Another case was of a man with a bullet in his leg. The man was intoxicated and couldn't locate the bullet. The photograph showed it, eight or ten inches from where it went in.

Dr. White remarked that in 1863 a woman came to him

who had run a nail into her foot. He made thirty-three incisions and never found it. Afterwards pieces of iron were found from time to time. The pain was severe. He called Dr. Knight in consultation because he thought she might be fooling him. But the surgeon said the treatment must be continued until the patient was well. All her relatives declared that she was sincere in her sufferings, although he thought there might be some deception. He hopes not to have another such experience. Such an apparatus as Dr. Loomis has shown us would entirely avoid anything of the kind. •

Dr. Wright's paper, "The Treatment of Diphtheria With Antitoxin Serum in Private Practice," especially prepared for this meeting, was read. It was discussed by Dr. Calef.

Papers followed by Doctors Hallock on "Goiter and Thyroid Feeding;" Dr. Goodwin, "The Physician as a Sanitarian;" Dr. M. M. Johnson, "Operations for the Removal of the Appendix Vermiformis;" Dr. Kate C. Mead, "Abdominal Massage in the Treatment of Certain Uterine Diseases;" Dr. F. H. Wiggin, "Some Practical Points of Country Medical Life."

The others were read by title and referred to the Committee on Publication :

"Notes on Abdominal Surgery in the Hartford Hospital for the Last Year," Harmon J. Howe, Hartford.

"Excision of the Tongue," M. Storrs, Hartford.

"The Diagnosis and Treatment of Cancer of the Hand and Foot," C. J. Foote, New Haven.

"The Diagnosis and Treatment of Cancer of the Chest and Abdomen," W. H. Carmalt, New Haven.

"Two cases of Fracture of the Spine With Operations," W. W. Hawkes, New Haven.

"Anesthetics," E. P. Flint, Rockville.

"Puerperal Convulsions—Varieties, Causes and Treatment," W. L. Higgins, South Coventry.

"A Proposed Home for Incurable Children," Theodore G. Wright, Plainville.

"A Few Notes on the Prophylaxis of Tuberculosis,"
E. P. Douglass, Groton.

"Graves' Disease," F. T. Simpson, Hartford.

"The Parasitic Origin of Carcinoma," Charles F.
Craig, Danbury.

"How Shall Testamentary Capacity and Criminal Res-
ponsibility be Determined by Our Courts," J. F. Calef,
Middletown.

"Some Hygienic Hints," O. J. D. Hughes, Meriden.

"The Abuse of Hypnotics," W. G. Daggett, New Haven.

"Cerebral Embolism," Gustavus Eliot, New Haven.

"Treatment of Posterior Displacements of the Uterus,"
P. H. Ingalls, Hartford.

"The Climatic Treatment of Tuberculosis," G. L.
Woods, Collinsville.

"Traumatic Meningeal Hemorrhage," J. C. Kendall,
Norfolk.

"Castration for Reduction of the Prostate Gland, With
a Case," F. A. Rice, Bridgeport.

"Cerebral Hemorrhage in Children," F. P. Griswold,
Meriden.

"Surgical Treatment of Tuberculosis," John W.
Wright, Bridgeport.

The meeting adjourned at 5:30.

N. E. WORDIN, Secretary.

PRESIDENT'S ADDRESS.

PRESIDENT'S ADDRESS.

PATIENTS OR CRIMINALS—WHICH ?

Gentlemen :

It is through your kindness and generous good-will that I am privileged to address you on some suitable subject.

While thanking you for the honor conferred, I am compelled to say that I am sorry I can give you only a service marked by the weakness and infirmity of advancing age.

The past year has been distinguished in the medical world by the announcement of the usual number of new facts and the discovery of as many old ones.

Things hitherto hidden from the sight and knowledge of men, have been brought to light in a most startling and unexpected manner; so much so, that the benefit to be derived therefrom has not as yet been fully estimated.

The progress of medicine has been accelerated and the zeal of its devotees illumines the future with a halo which seems to promise the banishment of sickness and suffering from the face of our earth.

But I have no new theory to offer you, no great discovery to proclaim, no astonishing scientific fact to reveal; in short, I have nothing to give, but rather am seeking information, am trying to learn whether an insane person is a patient or a criminal. These two classes, the insane and the criminal, are so closely allied at the present day, as well as in the past, are so imperceptibly merged one into the other, that the dividing line has become obliterated and all seem to be standing on one common ground, the name and nature of which, as yet, is undecided.

It may prove a land dotted with asylums for the care

and treatment of patients, or a penal colony for the confinement and reformation of criminals. The insane person is now no new development of the human race. We have had them with us since the beginning of history and they are with us to-day in increasing numbers. We do not care to go back to the time when they were thought to be "possessed of an evil spirit," fit only for chains and bars, for prisons and dungeons, for abuse and ill-treatment, which man alone knows how to inflict on his brother man.

We will go back but a few years, back to the time when a little light began to dawn upon the expanding intellect of the then successful legislator, enabling him to pass an act, or law, for the care and protection of the insane in the following beautiful and sympathetic language:

"Two Justices of the Peace are hereby authorized to issue a warrant for the arrest of any lunatic, who shall be locked in a secure place, and if it is found necessary he may be chained and confined in his own parish, and if in possession of any property it may be used or expended for his maintenance."

The light that produced this result upon the intellect of the primitive legislator must have been one of an intensely penetrating power and permanent effect, for it left a lasting, if not an everlasting, impression on the brain-power of all legislators, from that time down to our own of 1895, as witness the following:

"When any insane person shall go at large in any town other than the town of his own residence, the Selectmen of the town where he is at large, may cause him to be removed to the town where he has his residence, and any Justice of the Peace may issue a warrant for his removal."

In each of these acts, enacted two hundred years apart, a Justice of the Peace, an officer of law, issues a warrant for his arrest and has final jurisdiction.

In one case he is chained and confined in his own parish and in the other he is removed to his own town and cast adrift to follow the inclinations of his own disordered

brain, until some one shall appeal to another officer of the law in his behalf, and so the farce has been and is repeated, "ad infinitum."

Is the victim a patient or a criminal?

Our State has numerous asylums and retreats, both public and private, for the care and cure of insanity under the supervision of medical men. Our statutes are replete with laws for the commitment of insane persons to these asylums and retreats, in which the diagnosis of insanity is left to the legal profession. In no case, in the State of Connecticut, can an insane person be admitted to an asylum by an order of a medical man. He must be arrested, brought before a court, tried, condemned or acquitted, as the case may be, like any other criminal, but not until the doors of an asylum have closed behind him, does he become a patient, or receive the treatment of a diseased or disabled man.

If a patient, why all this array of legal procedure to make a diagnosis of physical disability? Or again, if a criminal, why placed in an asylum under the supervision of men whose life-work has been, and is, the diagnosis and treatment of mental derangement?

In this connection we get a mixture of incompatibles and the result cannot be beneficial or correct. It is a relic of barbarism and an ignorant barbarism at that, and it should cease to be.

It being admitted by all competent to judge, that no case of mental derangement is possible without an abnormal or diseased condition of brain tissue, it seems strangely inconsistent to expect a proper or just discrimination of such conditions, from men without previous training or experience in similar cases.

The generosity of the State of Connecticut is not limited, and in no case is it more manifest, than in the care and treatment of its unfortunates, unless it be in the number of methods provided for the commitment of the insane to its numerous asylums.

The cumulative wisdom of several generations of dis-

tinguished legislators, has succeeded in evolving ten different methods of committing insane persons, but through some mistake, or oversight of our last Legislature, one was repealed, thus leaving but nine in full force and good standing ; enough to satisfy the choice of any reasonable lunatic, and more than enough to satisfy the ends of justice.

In an Act concerning insane persons passed by our last Legislature, the word " asylum " is said to mean any public or private hospital, retreat, institution, house or place in which any insane person is received or detained as a patient for compensation, and the word " patient " is said to mean " any person detained and taken care of as an insane person." Consequently any person detained and taken care of as an insane person, must be a patient, according to the language of the Act under consideration.

But, Sec. 2 of said Act makes him a criminal and gives the Court of Probate of the district in which he resides jurisdiction over him, in all cases, except where it especially otherwise provides by law.

Said Court exercises such jurisdiction upon written complaint made by any person, alleging that such person is insane and a fit subject to be confined in an asylum. It does not intimate that he may be a patient in need of medical treatment, but if insane, shall be confined, thus suffering the punishment of all committed criminals.

Sec. 4 says : " Upon such complaint being filed in the Probate Court, such court shall assign a time and place for hearing such complaint;" in other words, appoints a time and place for trial, and " such court may also issue a warrant for the apprehension and bringing before it of the person complained of"—in short, it may issue a warrant for his arrest for trial like any criminal.

If you, or I, or any man has a friend or relative unfortunate enough to suffer from mental derangement and who may be receiving the best care and treatment that science and skill can furnish, he is liable to be complained of by some disinterested, offensive person, brought to

trial and confined in an asylum against our wish or desire, or we are compelled to "give bonds satisfactory to the court, for his care and detention in some suitable place other than an asylum."

In fact, any insane person in our State, no matter how skilfully treated, how kindly cared for, or what his condition in life, is under the jurisdiction of an irresponsible complainant and the Court of Probate for the district in which he resides.

Sec. 6 is a continuation of his criminality, for it provides the witnesses for his trial and says : "In addition to such oral testimony as may be offered at such hearing, the court shall require the sworn certificates of at least two reputable physicians, etc., etc., one of whom shall be selected by the court, to the effect that they have personally examined such person within ten days of such hearing, and that in their opinion such person is insane and a fit subject to be confined in an asylum."

Here we have two kinds of testimony, oral and written. The oral may be for or against the victim's conviction, but the written must be for his conviction or it is not accepted, for it says, "the court shall require the sworn certificates of at least two reputable physicians, to the effect that in their opinion such person is insane and a fit subject for confinement." It does not allow them after examination to say sane or insane, but says positively—shall require the certificate to say "insane and a fit subject to be confined."

It compels the physicians to make a criminal of him, by certifying that he is a subject for confinement, instead of certifying that he is a subject needing medical treatment.

Sec. 7 is a Daniel come to judgment, for it contains the decision, or rather the diagnosis of the case. It says : "If on such hearing the court shall find that the person complained of is insane and a fit subject for treatment in an asylum, or that he ought to be confined, it shall make an order for his commitment to an asylum to be named

in such order, there to be confined while such insanity continues ; that is, if the court finds it can agree with the sworn certificates of the reputable physicians, it commits him, if it disagrees with them and thinks they have sworn falsely, as it is at perfect liberty to do, it discharges him.

In this Section the Legislature gives the first intimation that possibly insanity may be a disease requiring medical care, for it says, " If the court find him insane, or a fit subject for treatment it may commit him to an asylum." For what? Care and treatment? No, sir. The patient was only temporary and vanished immediately, leaving the original criminal committed to an asylum, "there to be confined while such insanity continues."

No provision for care, for attention, for medical treatment which a sick man needs—nothing but an order that he shall be confined while such insanity continues.

In the eye of the law, are they patients or criminals?

" The voice is Jacob's voice, but the hands are the hands of Esau."

The " Act Concerning Insane Persons," passed by our last Legislature and containing twenty-five sections, makes use of the word "treatment" but once and that is the only indication it gives that an insane person may be a patient, but the words "confined," "confinement," "detained" or "detention" appear eighteen times and give the impression that its victims are criminals and confinement their punishment.

Sec. 8 gives the person found guilty of being insane "the right of appeal as in other cases," and any friend or relative, in behalf of said guilty person, can appeal to the Superior Court, thus following the beaten track of criminal cases.

Sec. 9 says : " On the trial of an appeal, the Superior Court may require the State's Attorney, or in his absence some other practicing attorney of the court to be present, for the protection of the interests of the State and of the public, but fails to inform us whether conviction

or acquittal will best protect the interests of the State and public in general.

Here we have the general statute made by the assembled wisdom of our last Legislature, for the diagnosis of a suspected case of insanity and its treatment or punishment, as you may please to consider it ; have it from the reception of the complaint by the court, the court ordering a hearing, summoning witnesses, holding trial, rendering judgment and meting out the punishment of confinement.

It consists of courts, witnesses, trials, verdicts, appeals, State's Attornies and practicing lawyers on one side ; on the other side, custody, confinement, detention.

Are these the environments of a patient or a criminal?

Do they indicate the cure of patients or the punishment of crime? Do they suggest asylums or penal institutions?

The exceptions to the general statutes, especially provided by law, eight in number, vary in character but never in intent.

The first, Sec. 19, a part of the general Act, but not of it, is as follows : " The keeper of any asylum in this State may receive and detain therein as a patient any person who is desirous of submitting himself to treatment and makes written application therefor, but whose mental condition is not such as to render it legal to grant an order of commitment as an insane person in his case, under the provisions of this Act."

What was intended to be accomplished by this law, is grasped only by the trained intellects of practical legislators, but the result arrived at is simply the reception and detention of a sane person in any insane asylum ; because it expressly says, " whose mental condition is not such as to render it legal to grant an order of commitment as an insane person in his case under the privileges of this Act." That is, if he cannot be proved insane by the usual means, of friends and enemies, of lawyers and doctors, of judges and courts, he is eligible to treatment in an insane asylum " if he so desires, and makes written application therefor."

It was a thoughtful Legislature that provided this Act and evidently feared preventive medicine, for if the sane could be isolated and properly treated natural causes would tend to diminish the number of insane, if not cause them to entirely disappear in the near future.

Prevention is undoubtedly a key to the situation and the legislator who proposed the statute that encourages a mentally sound person to apply for treatment in an insane asylum, must have been a progressive man and in sympathy with the most advanced science of the day.

The second exception is Section 487 of the General Statutes and applies to another class, for "When any pauper in any town shall be insane a Selectman of such town may apply to the Court of Probate for the district in which said pauper resides, for his commitment to the State Hospital for the Insane and such Court shall appoint two respectable physicians who shall fully investigate the facts of the case and report to said court, and if said physicians shall report said pauper insane, the court may order, (does not say shall) such Selectman forthwith to take such pauper to the hospital."

You will please note that said pauper must be insane (not alleged or suspected to be insane), "but shall be insane" before an investigation can be legally ordered, but how that fact is determined can be found only in the unwritten history of our legislation.

The third exception is something like the last, only entirely different. It reads: "When an indigent person, not a pauper, is insane, application may be made by any person in his behalf to the Court of Probate for the district where he resides, who shall appoint two respectable physicians and a Selectman of the town where said indigent resides, who shall investigate," etc., etc., as in the case of the pauper.

Any common, ordinary, every day Selectman, not necessarily respectable, will do, but the physicians are required to be respectable, and all three must reside in the same town as the indigent person, a difficult provision to meet

in all cases, as some towns in the State have arrived at so high a state of civilization that physicians are superfluous within their borders.

It may be said that the law does not so intend, but it does, if construed as written, or if it means what it says.

Sec. 3683 reaches the ultimatum of insanity legislation and seems to have been enacted for the benefit and use of the aristocratic and wealthier class, because it is more expensive and enjoys a committee profusely decorated with red tape that pleases the eye and improves the judgment. It ignores the Probate Judge and rises at its first flight to the height of a Superior Court Judge, for, "on a written complaint made to any Judge of the Superior Court, that a person named therein is insane and unfit to go at large, such Judge shall immediately appoint a committee consisting of a physician and two other persons, one of whom shall be an attorney-at-law, Judge, or Justice of the Peace, who after such person has been notified according to the order of such Judge of the Superior Court, shall inquire into such complaint and report to him the facts of the case and their opinion thereon; and if in their opinion such person should be confined, such Judge shall issue an order therefor."

Here we notice a reflection of the same light that dawned upon the intellectual capacity of the legislators of two centuries ago, as confinement was the only treatment provided by law at that time and has continued to be the same all through two centuries, even down to the present time, and the same old Justice of the Peace is ever present and holds jurisdiction as firmly as in "ye olden times."

The Judge, the Justice and the lawyer retain their respective positions in our higher legislation, as in the other, but the medical force is reduced to one physician, and he not even required to be respectable, as in the other statutes we have examined.

Why this distinction and difference we do not know. Why the certificates of two physicians are required by a Probate Judge, and the opinion of only one by a Superior

Court Judge, is not explained. Why a mixed commission is good and appropriate in one case, and not in another, might possibly be solved by an application of X rays.

Why one physician is selected by the Judge in a certain case and the other in the same case left to be chosen by natural selection, or spontaneously generated for aught we know, remains a mystery. Why physicians are required to make oath to some certificates and not to others, is an unsolved problem.

What advantage is gained by having so many different ways and so much cumbersome machinery to diagnose a case of brain disease is beyond our comprehension.

Why there is so much less legal ability required to establish insanity in a pauper than in a millionaire is clouded in obscurity.

In short, why is application made to a Justice, a Judge or a mixed commission for a diagnosis in brain disease, any more than in other organic or contagious diseases?

It certainly requires no more skill or ability in the one case than in the other and the danger to the public in general is no greater from an insane person than from one afflicted with phthisis, or any contagious disease.

Substitute any disease you please for insanity and start legal proceedings as the law directs in case of the latter; continue them until the victim is found guilty of being diseased, treat him by confinement, instead of medical means while such disease continues and what, think you, would be the result?

Yet, we would have only parallel cases, and if one is right the other is just. If one is wise the other is wisdom and the law should be so amended as to apply in all cases of disease, instead of only in one.

If the elevation of a man to the judicial bench confers a supernatural power in the investigation of disease, we had better elevate a few more and extend the limits of their usefulness. But if it does not, and we know it does not, there remains but one reason for its continuance, and that is custom.

In the "long ago," when an insane man was looked upon as a "devil incarnate," when effect was taken for cause, when conduct and condition were made the basis of treatment, when he was thought evil, vicious and utterly depraved, law and punishment were his only hope here or hereafter. From that stand-point officers of law naturally held jurisdiction and punishment and torture were the only remedy, applicable or satisfactory. The custom then established has held sway to the present day, legislators at no time having been able to separate cause from effect.

It has been modified by the medical profession and public opinion in the course of time a little ; so very little that a physician's opinion is required now and then, but never accepted as final, and he is permitted to treat the victim as a patient after his commitment to confinement.

Any attempt at legislation on the subject of insanity has only produced a whirlwind of disorder in the minds of legislators, resulting in a multitude of conflicting and inconsistent laws, at which, perhaps, we ought not to be surprised when we consider its literature, as both medical and legal authors have combined to deepen its mysteries and render "confusion worse confounded." They have invented and given forth for the use and abuse of mankind more kinds of insanity than there are molecular atoms in the brain.

It is most ludicrous when not ridiculous to witness one of the forensic battles that occur now and then between the medical and legal fraternities for the possession of some unfortunate victim that has fallen a prey to medical talent and legal learning. The supposititious questions of the one and the intensely scientific answers of the other, glitter in the surrounding atmosphere like an electrical display in a midsummer shower, creating an impression on the minds of jurymen that enables them to render verdicts at times, which often both astonish and disgust when compared with the simple facts in the case.

But I digress and must return to the remaining exceptions especially provided by law and referring to insane

criminals—a class that seems to be afflicted with a very obscure and mysterious kind of insanity, as it requires much more skill and ability to discover its mental status.

These laws are models of perfected legislation, prepared to meet any and all emergencies that may arise and run with the ease and smoothness of all legal machinery.

When a man desires the attention of public officials, he need only become an inmate of one of our penal institutions and develop symptoms of incipient insanity, when his heart's desire will be gratified ; for at once he will have enlisted in his service almost the entire official care of the State, consisting of Governor, Judges of Superior, City and Police Courts, State's Attorneys, County Commissioners, Justices of the Peace, Sheriffs, Wardens of State Prison, Jailers of County jails, medical experts and now and then a reputable physican.

A generous provision for the diagnosis of any disease we are willing to admit, but nevertheless to us it seems incomplete, as there is no provision made for a chaplain to the staff, an oversight perfectly inexcusable in this enlightened age, and one to be regretted when we consider the benign influence he would exert over the patient and over his official associates. It surely is a neglect of criminals, if not a criminal neglect, and should be corrected at the earliest opportunity.

The fifth exception and the first relating to insane criminals is Sec. 1600 of the General Statutes and reads : “ When any person committed for trial to the county jail on a binding over process, bench warrant, or appeal, shall, at the time of commitment or thereafter and before trial, appear to be insane, the Sheriff of the county in which said jail is located, may make application to a Judge of the Superior Court, and after a hearing upon said application, notice of said hearing having been given to the State's Attorney, said Judge may, if it appear to him desirable, appoint three reputable physicians to examine as to the mental condition of the person so committed,” etc., etc.

The sixth and next exception is Sec. 3385 : “ When

any Jailer or County Commissioner shall be of the opinion that any person confined in jail, upon the commitment of a Justice of the Peace, any City or Police Court, in any case within the final jurisdiction of such Justice, or City or Police Court, or upon commitment of the Superior Court, is insane, it shall be the duty of the County Commissioners to appoint some reputable physician to make an examination of such person, and if such physician shall be of the opinion that such person is insane, he shall make a certificate to that effect and deliver the same to said Commissioners," etc., etc.

In the case, bound over and awaiting trial, if suspected of being insane, it requires three reputable physicians to ascertain the exact state of his mental condition, assisted by a Judge of the Superior Court, Sheriff of the County, and State's Attorney ; while the same person after conviction and serving sentence in the jail, requires only one reputable physician and the County Commissioners.

It would have been highly satisfactory to have had the Legislature inform us why it is so much more difficult to diagnose a case of insanity before trial than after ; tell us what particular light had been thrown on the latter that was wanting on the former, but they did not.

In contrast to the last two, please notice Sec. 1601 : " Any Superior Court, City Court, or Police Court in the State, before which any person shall be tried on a criminal charge and acquitted on the ground of insanity or dementia, may order such person to be confined in the Connecticut Hospital for the Insane for such time as such court shall direct."

Short and sweet ! for without the aid of even one reputable physician or trouble of any examination, he finds himself in an asylum, as certainly and surely as his much examined brother.

Here we find three specific laws for the commitment of an insane criminal to an asylum ; one does not require any medical examination, one demands the certificate of one reputable physician, and the third calls for the appointment of three reputable physicians to examine into

his mental condition, aided by a Judge of the Superior Court and a State's Attorney.

Who shall tell us why so many yards of brilliant colored tape are needed in one case and not any in the other ?

But eighthly and lastly, my beloved brethren, we come to Sec. 3617, a magnificent specimen of legislative ability, as amended by the Legislature of 1893. It reads : " When, in the opinion of the Warden of the State Prison, or the Jailer of any common jail, any person confined in said prison or jail, has from any cause become insane, or shall appear to be insane, it shall be the duty of said Warden or Jailer to immediately report the fact to the Governor, and thereupon it shall be the duty of the Governor and he is hereby authorized and empowered to appoint a commission of not more than three experts to examine such person, which commission having been duly sworn, shall at once proceed to said prison or jail and so far as possible ascertain the mental condition of such person and shall make a report in writing to the Governor as to the sanity or insanity of such person, and if it shall appear from said report that in the opinion of said commission such person is insane, and the Governor shall approve the same, he shall issue an order to take such person to the Hospital for the Insane, there to be safely kept until the expiration of the term for which said person was committed to said prison or jail, or until such person shall have recovered from his insanity, and if before the expiration of the term for which said person was committed to said prison or jail, any such person shall, in the opinion of the Superintendent of said hospital, have recovered his reason, said Superintendent shall forthwith report the fact to the Governor, who shall appoint a commission as hereinbefore provided, which commission shall examine such person and report as to the sanity of such person to the Governor in writing. If it shall appear from said report that said person shall have ceased to be insane and the Governor shall approve the same, he shall issue an order to take such person from said hospital and deliver said person to the proper authorities of said prison or jail."

But if he still continues to be insane at the expiration of the term of his imprisonment, you will note that no commission is necessary to determine his insanity, only the opinion of the Superintendent is required, and if the Governor approves he issues a new order for the further detention of such person, in said hospital, until he shall have recovered from his insanity; and Sec. 3631 says: "When such person shall have fully recovered from his insanity, it shall be the duty of the Superintendent of said hospital to dismiss him therefrom."

Thus in the case of one and the same individual we have a commission of three experts and the Governor to determine his insanity, and another one of three experts and the Governor to determine his sanity if it occurs before his term of imprisonment expires; but if it does not occur and symptoms of insanity remain after his term of imprisonment has expired, the opinion of the Superintendent is sufficient warrant for the Governor to further detain him in the asylum "if he deem it best," and when he recovers after the expiration of his term of imprisonment the Superintendent is alone judge of his sanity and discharges him from the asylum on his own responsibility.

If the Superintendent is capable of determining his insanity after his term of imprisonment, why is he not just as capable of judging of his sanity before it has expired; or again, if necessary for a commission of experts to determine his sanity before the expiration of his term, why not after ?

Can it be that it is so much more difficult, that the symptoms are so much more intricate and obscure during imprisonment than immediately after, or has freedom of person thrown a light on the case that enables a Superintendent to do the work of a whole commission ?

"Circumstances alter facts."

But Sections 3617 and 3385 are conflicting in action and must be a source of embarrassment, as one requires the Jailer to report to the County Commissioners who appoint one reputable physician to examine the prisoner and report to them, while the other compels the Jailer to

report to the Governor, who appoints a commission of three experts, who report to him. Whether it is optional with the Jailer to make a choice, or to report to both, is not divulged to the ordinary mortal, either by law or gospel.

Mr. President and members of the Connecticut Medical Society, thus have we brought to your attention, in a cursory manner the laws of our State for committing insane persons to asylums, and whether they seem to consider such persons patients or criminals.

But "cui bono"? If these laws could be shown to be the literal descendants of the first ones enacted on the subject, without material change or improvement; if it were shown that courts and judges, lawyers and witnesses, sheriffs and law-officers in general have custody and final jurisdiction, what good?

If it were acknowledged by all, that insanity was a disease of the brain and the brain only, what would it avail? Think you the minds of legislators would be changed by any inconsistencies, conflictions or omissions that might be shown; that they will ever be able to comprehend that disease needs medical more than legal aid?

Think you they will ever be able to see that it requires no more skill to diagnose insanity in the millionaire than in the pauper, in the criminal than in the innocent?

Perhaps it is correct, that it is better as it is, better than it would be if left to the medical profession, but be that as it may, there is an inconsistency existing that should be removed.

Either make a criminal of him and treat him as such, or consider him a patient and give him into the hands of the medical profession for diagnosis as well as treatment.

Take either one or the other, but do not compel the unfortunate victim to carry a double burden. If a criminal, leave him to law and the legal fraternity to prove his crime and mete out his punishment; but if suffering from disease, suffering from abnormal or deficient brain, let a

medical man be the judge of that condition and give to him the care and treatment that medical science alone can furnish.

Let it be either fish or fowl and not the ill-formed monstrosity of the present time.

If a structure, half medical, half legal, is right and just, substantial and enduring, we should erect others that would seem to be needed to extend the strength of such unions, so that cases at law may be decided by theology and questions of theology settled by medicine.

If a Judge makes a superior diagnostician a physician ought to be able to do duty as a theologian, and a Bishop perform the duties of a Judge. If the principle is correct, advocate it; if wrong, denounce it.

We are aware that an adverse opinion on the method of investigating cases of insanity has to contend with the prejudice of age, and the sanction of tradition. Yet we are comforted with the assurance that old things shall pass away, and all things become new.

If the medical profession is satisfied to have its opinions and decisions appealed from, to men without knowledge or information on the subject matter, let us rest in peace. If it is content to be used as a plaything by the law, to be used now and cast aside then, at the pleasure or caprice of this or that man, let us remain passive.

If not, if you think insanity a disease, think an insane person a patient and not a criminal, let us speak gently but audibly and insist that our judgment in such cases shall be respected; that when an appeal is taken, it shall be to medical men, and not to the butcher, the baker or the candle-stick-maker.

Let us let the world know that we think this but just and right and perhaps in the fullness of time, the all-wise and omnipotent God may be able to induce some future Legislature to enact insanity laws that will not be a disgrace to our State, an imposition on the medical profession, or unjust to those for whose benefit they were enacted.

DISSERTATION.
DIAGNOSIS AND TREATMENT
OF
APOPLEXY.

DIAGNOSIS AND TREATMENT OF APOPLEXY.

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(English medical writers of fifty years ago like Abercrombie and Watson, in treating of the subject of apoplexy, made a distinction of apoplectic and paralytic cases, the latter being cases in which coma did not supervene or come on gradually after the paralysis). As late as 1886, Connecticut physicians returned among the causes of death for that year, three hundred and forty-one cases of apoplexy and three hundred and seventy-eight cases of paralysis. In 1893, on the contrary, they returned six hundred and thirty-one cases of apoplexy and only forty-one cases of paralysis. This illustrates the present day use of the convenient term apoplexy which, as defined by Dr. C. L. Dana, is applied to a condition characterized by a sudden paralysis and shock, usually with loss of consciousness and due to hemorrhage, to embolism or to thrombosis of the cerebral vessels. Apoplexy is a frequent disease, more frequent perhaps than is generally thought. During the year just past there died in Hartford above the age of forty, sixty-one people of apoplexy, fifty-five of heart disease, fifty-four of pneumonia, forty-one of Bright's disease and thirty-six of phthisis. Thus, apoplexy was the chief cause of death after the age of forty, and if we take each year for eleven years since the establishment of the Board of Health, we find apoplexy, pneumonia, and heart disease by turns holding the first place as destroyers of adult life. The State reports furnish the same proportions in general outline. I have collected a total of 8587 cases of apoplexy and paralysis from the reports of the State Board of Health for thirteen years, a list more than three times as large as any I have seen

mentioned. A few facts could be tabulated from these cases which it may be of interest to relate as modifying some generally held opinions before going on to the subject proper of this paper.

The male sex is said to be more liable to apoplexy than the female. To illustrate this Edes, in Pepper's System of Medicine, quotes Lidell's statement that there died in New York of apoplexy in three years five hundred and ninety-eight males and four hundred and forty females; also, the list of Falret, of 1,670 males to 627 females. The Connecticut statistics however show 4,157 cases of males and 4,430 cases of females, an absolute preponderance of about three per cent. of females. This proportion I believe to be more nearly true and more worthy of credence than the lists cited by Dana and others, of hospital cases in which alcoholic males figure predominantly. As regards age, the following are the statistics:

Below...40.....	477.....	05.5	per	cent.
40-50.....	663.....	07.8	"	"
50-60.....	1237.....	14.2	"	"
60-70.....	1946.....	22.5	"	"
70-80.....	2392.....	27.5	"	"
80-90.....	1363.....	16.0	"	"
Above...90.....	179.....	02.	"	"

Earlier writers from Hippocrates down considered 40-60 the apoplectic age, and Hammond remarks that modern investigation establishes the truth of this proposition as far as the actual number of cases goes. Out of three hundred and forty-one cases occurring in his hospital and private practice, three hundred and eleven were between forty and sixty years of age. This appears to be the general impression, based mostly upon hospital statistics, though most writers agree with the statement first made by Flint, that relatively the tendency increases throughout life, and that the actual number of cases is greatest before sixty, only because the number of people alive at that period is much greater than after sixty. The Connecticut statistics however show that in private prac-

tice, taking people as they live in the city and in the country, the tendency to apoplexy increases both relatively and absolutely up to eighty, and that the largest number of cases falls between seventy and eighty. Indeed, seventy per cent. of the cases occur after the sixtieth year. Osler aptly says: Longevity is a vascular question. A man is only as old as his arteries, and in a sense apoplexy or arterial breakdown is the natural termination of life.

That apoplexy occurs most frequently in cold weather, a fact long known, is upheld by these statistics, the actual distribution of cases being as follows:

Jan.	Feb.	Mar.	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
776	687	769	760	726	607	663	666	665	734	710	770

the smallest number of cases in June, July and August being nine hundred and thirty-six as against two thousand three hundred and fifteen in December, January and March.

At the same time, cold is not found to have such marked influence, as is asserted by some authors, and shown in statistics of a small number of cases.

The diagnosis of the conditions underlying apoplexy is not only a difficult matter but a very important one, if, as Bastian insists, directly opposite courses of treatment are to be pursued in hemorrhage and softening. Even the differential diagnosis of the apoplectic coma from other forms of coma is often difficult and sometimes impossible. More than a score of morbid states of the body may be accompanied by sudden coma. A list which I have collected from various authors includes

Syncope, Catalepsy, Concussion, Hysteria narcosis, Congestion, Opium narcosis, Compression, Alcohol narcosis, Insolation, Chloral narcosis, Epilepsy, Chloroform narcosis, Uremia, Coal and Water Gas Asphyxia, Diabetes, Meningitis.

Gray disregards the foregoing conventional list and substitutes for differential diagnosis, cerebral tumor, fracture, Ménière's disease, thrombosis of cerebral sinuses,

cerebral palsies of childhood, and cerebral syphilis. Oppenheim adds paralytic dementia, hemorrhagic encephalitis, and lead encephalopathy. Strümpell says that an indurated myocarditis is not infrequently the cause of apoplectic death with coma lasting a few minutes or several hours or days. Recently French reports a case of sudden coma supposed to be due to sun-stroke which was found by the microscope to proceed from the plasmodium of malaria.

These multitudinous conditions mentioned as simulating apoplexy can usually be easily excluded by the history of the case. Where this cannot be obtained, the environment and the condition of the patient—in particular, the condition of the pupils, of the breath and respiration, the urine, the gums, the temperature, the muscular relaxation, etc., will usually decide. The most common and the most serious error appears to be made where apoplectic coma in a drunken person is mistaken for simple alcoholic coma. Close observation and perhaps the stomach pump, as in a case related by Watson, will eventually reveal the true condition.

Hemorrhagic encephalitis is a rare infective process occurring mostly in young persons in connection with influenza with prodromes of headache, chill, fever, delirium. The coma is not so deep and the reflexes are preserved.

In hysterical coma, real or simulated, the pupillary and usually the corneal reflexes, are retained. The expression of the face often reveals the condition. Pressure over the ovary or the supraorbital nerve is sometimes an effective means of diagnosis. I once gave such a patient a painful injection of diluted aqua ammonia which had no effect, but when I threatened a second one if she did not recover in five minutes she recovered.

A question constantly coming up to physicians for discussion is the cause for the sudden death of an individual, who died before their arrival. Three such cases have occurred to me in the past year. Too often, I believe,

apoplexy is given as the cause. A few cases are on record of sudden death from hemorrhage in the medulla, pons and cerebellum. But the researches of Lesser, Legros, Knapp and others show that sudden death due to brain disorders is comparatively rare, while all authorities agree that heart lesions, particularly myocardial disease, and lesion of the coronary arteries, are in most cases the cause of sudden death. It is to be remembered also that many cases of myocardial disease have no symptoms. As Osler says, the first are the final symptoms.

Granted that we have arrived at the probable conclusion that the cause of our coma and paralysis is a vascular lesion within the brain, how are we to determine whether a plugged or a ruptured vessel is at the bottom of the difficulty? Frequently, it cannot be done. Hence the convenience of the term apoplexy.

Still there are some classes of cases in which the probabilities are very strong in one direction or another. In a recent study of one hundred and four cases of embolism by Saveliew, it is stated that heart-disease was present in eighty-nine per cent. of cases, being a valvular lesion; that the vast majority occurred between the ages of twenty and fifty, nearly thirty per cent. occurring between twenty and thirty; that the left side was affected in thirty-six cases as against twenty-nine in the right, and that fifty-four per cent. were females. These statistics fully confirm the statements of the same kind to be found in all our text-books. A clear-cut case of embolism then would present the following picture: Preferably, a woman, between twenty and thirty, in the puerperal state or profoundly anemic, or having a heart-lesion, especially mitral, is seized with a slight convulsion or a coma of short duration, followed by right hemiplegia or right monoplegia and aphasia which incline to be permanent in duration. The special points to be searched for are the causes to create an embolus, namely valvular lesion, and endocarditis, ulceration, bronchitis and pulmon-

any gangrene or blood-dyscrasia, such as exist in pregnancy or the puerperal state, in anemia, infectious fevers and sepsis, and especially in chorea and rheumatism. Lesions clearly cortical are especially due to softening. A persistent aphasia or other language disorder points to softening, either embolism or thrombosis. Very rapid disappearance of hemiplegia within a few hours, points to an embolism and the establishment of the collateral circulation.

Cerebral thrombosis has likewise in typical cases its distinguishing marks. Syphilitic thrombosis occurs at any age. Otherwise thrombosis is a common disease of old age and is caused by atheroma. A very pronounced atheromatous condition of the peripheral arteries should always lead one to suspect softening. The significant signs of thrombosis, etc., are the premortuary symptoms—headache, dizziness, decline in memory and intelligence, repeated slight shocks and especially gradual development of paralysis, commencing at one point, as for instance the hand and slowly developing during a number of hours. According to Hirt, thrombosis rarely gives rise to a stroke, owing to the slowness of the process. Syphilitic thrombosis is seen typically in persons twenty to forty-five years old without heart or kidney disease. There is a gradual development of paralysis of cranial nerves, such as strabismus, ptosis and mono or hemiplegia. Sometimes there is a sudden and prolonged comatose condition. The cachexia, the nodes upon the skull or long bones, caries, necrosis, or iritis or retinitis and finally the test of mercury or iodide will eventually reveal the nature of the trouble.

Thrombosis of the basilar or vertebral artery is usually syphilitic and produces some very typical symptoms of crossed paralysis; either the third nerve and body type or seventh nerve and body type. A paraplegia or diplegia is also seen. In addition there is disturbance of phonation, articulation and deglutition. Trismus and pyalism may be present. This constitutes the so-called bul-

bar paralysis. On the other hand hemorrhage in this region produces usually bilateral paralysis, contracted pupils, convulsions, Cheyne-Stokes respiration, and death as a usual termination.

The hemiplegia which rarely occurs during the eruptive fevers is due to thrombosis or hemorrhage. In typhoid fever, it appears to be due almost always to cerebral thrombosis and some twenty such cases have been reported.

Apoplexy due to cerebral hemorrhage is vastly more frequent than to embolism or thrombosis. Between the ages of thirty and fifty the proportion is stated by Dana to be as high as six to one in favor of hemorrhage. In infants and young children, hemorrhage alone occurs. But it is not to be forgotten that hemorrhage increases in frequency with each decade of life up to the eightieth year (Dana). Thus in the absence of the destructive features of acute softening, one is far more likely to be right in believing the case to be one of hemorrhage. The following characters belong peculiarly to hemorrhage:

First: The apoplectic habit. While an equal or greater number of cases of hemorrhage do have the apoplectic habit, yet the presence of this condition is significant of hemorrhage. Furthermore, the flushed face, slow pulse and slow and stertorous respiration point decidedly to hemorrhage and not to softening.

Second: Sudden and profound coma belongs to hemorrhage peculiarly. A continuous deepening of unconsciousness bespeaks hemorrhage. On the other hand, Lidell states that one-third of the cases of hemorrhage develop without coma. But if the extent of paralysis points to a large lesion without coma, Oppenheim says it is probably caused by softening.

Third: The range of the rectal temperature has considerable diagnostic importance for hemorrhage. Frequently it drops one or two degrees for a few hours. If it drops considerably to 96° and for some time, or if it rises rapidly and markedly, the case is severe. Usually

it rises slowly on the second and third day to 100° or 102° , being one-half to one degree higher on the affected side, and subsides by the eighth or tenth day (Dana). This peculiar course of temperature does not belong to softening, though a gradual rise in temperature may take place in embolism after some hours or days. An improvement beginning in the first few days after the attack and steadily progressing is indicative of hemorrhage.

Of less significance are certain minor distinctions. Thus, convulsions are said to be common in thrombosis, rare in embolism and very rare in hemorrhage. While embolism involves the left middle cerebral artery in sixty-six per cent. of cases, hemorrhage is equally divided or by some is said to occur more frequently on the right side of the brain, so a left sided hemiplegia is more suggestive of hemorrhage. The pupils are asserted to be contracted both in hemorrhage and softening. Oppenheim states that they are normal or dilated a little in hemorrhage, but contracted in a pons hemorrhage. Much importance, however, is given by many to their asymmetry in hemorrhage. This is frequent and marked, the pupil most dilated being on the side of the lesion.

Early rigidity of the paralyzed side is sometimes seen in hemorrhage, indicating a surface lesion or that the blood has burst into the ventricles. Late rigidity is common to both hemorrhage and softening. Conjugate deviation is considered a phenomenon of hemorrhage and a bad omen. Nystagmus is then sometimes seen, the eyes not oscillating beyond the middle line.

The location of the lesion has considerable diagnostic importance. A lesion in the medulla points almost certainly to softening, while a lesion in the pons or cerebellum is suggestive of hemorrhage, but cerebellar and pons hemorrhages are very fatal. Cortex lesions, as I have already said, are generally due to softening. Acute decubitus occurring on the second or third day is peculiar to hemorrhage and of bad import. Our diagnosis of apoplexy does not appear to be completely satisfactory unless

we endeavor to form some idea as to the approximate seat of the lesion. This of course can only be done in most cases after the general symptoms of the stroke have passed away. In the case of hemorrhage breaking through into the ventricles, a rather common occurrence, the following course of things occurs, according to Oppenheim: The disturbance of consciousness is increased, or if consciousness had not been disturbed or were already cleared up, a new stroke comes, the paralysis extends to all four extremities, a rigidity appears in the earlier paralyzed side or in all four extremities, possibly convulsions half-sided or general occur. There is a fall of temperature, slowed pulse, disturbed respiration, cyanosis, asphyxia and death.

In pons hemorrhages, according to the same authority, the consciousness may be preserved. The paralysis is bilateral and conjoined with difficulties of articulation and deglutition, pupils usually contracted, general convulsions, rapid rise in temperature, Cheyne-Stokes respiration and death.

Hemorrhages which affect the cerebellum likewise do not at first affect the consciousness so markedly, and are most frequently accompanied by vomiting. As the blood usually breaks its way into the fourth ventricle, we get the foregoing phenomena with fatal termination. Cerebellar hemorrhages seem to occur mostly in comparatively young persons.

Meningeal and cortical hemorrhages occur from accidents, from fevers or constitutional diseases, from rupture of an aneurism of the larger cerebral vessels and as a special form in parturition producing birth palsies. They are likewise apt to be fatal.

We are left now with the great majority of cases of hemorrhage which survive the first attack. Some time ago, Mendel called attention to the uniformity of the clinical symptoms presented by hemiplegics, strikingly in contrast with the diversity of symptoms presented by subjects of other cerebral lesions, e. g., brain tumor. This

he used as proof that the hemorrhage usually took place in essentially the same regions of the brain. He then gave a list of six hundred and thirty-nine cases of apoplexy, in seventy per cent. of which the lesion was found in the basal ganglia and adjoining structures. In one hundred and seven cases furnished by Rosenthal sixty-six per cent. were due to rupture of the arteries of the corpus striatum. By an ingenious mechanical arrangement of rubber tubes, Mendel showed that this was due to the fact that these large and terminal arteries supplying the basal ganglia and internal capsule were subjected to much greater pressure than the cortical branches beyond. Hence they give way easier. Hence the similarity of the clinical picture. It is a matter of the greatest interest to the patient, however, whether the internal capsule is directly or indirectly involved in the lesion. This is usually shown by the course of the case. If the hemiplegia begins to disappear within a few days after the attack, the internal capsule cannot be directly involved and the hemiplegia is only an indirect symptom of the lesion. On the other hand severe cases of even indirect hemiplegia may require three months for complete recovery and some cases, Hirt maintains, never recover. If four weeks go by without any sign of improvement in the hemiplegia, the lesion probably involves directly the internal capsule and recovery will never be complete. These are the cases that remain permanently paralyzed and contracted.

A persisting hemianesthesia indicates that the most posterior part of the internal capsule is involved in the lesion. This may be accompanied by an hemiataxia due to loss of sense of position.

Lesion of the optic thalamus is said to be indicated by hemiopia of the opposite side, by post-hemiplegic chorea, and further, according to Nothnagel and Bechterew, by loss of emotional expression in the face. Thus in such cases the affected side of the face can be moved voluntarily but remains completely rigid in emotional expression, such as laughing or crying. The reverse condition is true where the thalamus is intact.

The further localization of small hemorrhages, or spots of softening in a particular cortical convolution or central ganglion, is often possible, but the limits of this paper forbid the attempt at further detail.

The treatment of apoplexy depends upon the diagnosis of the underlying conditions, if such diagnosis can be made. Certainly very different initial treatment is indicated in such opposite conditions as hemorrhage and embolism. In a clear case of hemorrhage, elevation of the head, an ice-cap and perhaps venesection would be in place. In a clear case of embolism, measures to restore the cerebral circulation, such as lowered head, stimulants, etc., would be indicated. Where the diagnosis is impossible, the condition of the pulse is a safe guard. In hemorrhage, the blood should be drawn to the abdominal viscera by cathartics like rhubarb and calomel or croton oil. The vessels of the skin should be expanded by hot bottles, and mustard-pastes or poultices. Compression of the carotid is advocated by many, and for so-called ingravescent forms of apoplexy the carotid has been tied several times. Ligature of the extremities is also practiced. The use of ergot is not generally advised, but it is theoretically indicated, and practically useful on account of its convenient hypodermatic administration. In a recent case, I was glad to avail myself of it.

Other important points of treatment in the first few days are the prevention of hypostatic congestion, of deglutition, pneumonia, and of acute decubitus. When consciousness has returned, fever and restlessness soon appear. Aconite and bromide are then serviceable remedies. It is desirable to prevent restlessness and keep the intracranial arterial tension low. For this purpose moderate doses of bromide, chloral, trional, sulfonal or opium may be used. The danger of emotional excitement in producing a recurrence of the hemorrhage must be borne in mind. The friends must be warned of this and only the necessary attendants upon the patient should be allowed in the room. A fever regimen is in-

dicated, and proper attention should be given to the bowels and bladder.

As the patient begins to recover from the fever and other reflex disturbances, bichloride of mercury and iodide of potassium are remedies which in small doses have been found useful. The treatment of the hemiplegia consists at first only in gentle massage and passive movements for not over ten minutes at a time, so long as the patient is not excited by them. The use of electricity is deferred until the second or third week. The Faradic current may be used in sufficient strength to cause light contractions of the paralyzed muscles. If contractures are present, the current should be applied only to the antagonists of the shortened muscles. Short seances of five minutes are best and the electrical treatment may be continued with interruptions for many months. Galvanization of the brain is recommended by few. The electric brush may be used for hemianesthesia. I have seen good results with it in a recent case. For the contractures hyper-extension with splints and the use of strychnine, one one-hundredth grain, and of physostigma are recommended by Dana. The patient should not get up too soon nor stay up too long. Early attempts at movement favor the occurrence of contractures. Even after motion in the leg is quite fully restored, the patient should spend most of the time in bed. The arm should be carried for a long time in a sling.

Finally an existing aphasia should not be entirely neglected. Patient and appropriate instruction may help even this condition not a little.

CEREBRAL HEMORRHAGE IN CHILDREN.

FREDERICK P. GRISWOLD, M.D.

MERIDEN.

An effusion of blood into the brain of a child may occur the same as in that of the adult. The effusion is due to the rupture of one or more small vessels. The hemorrhage may be intracerebral or meningeal. The latter is more common in childhood. Cerebral hemorrhages do not occur as often in childhood as in adult life.

CAUSES.

The causes of hemorrhage may be considered under two heads: the predisposing and direct. A predisposition indicates or implies a weakened condition of the walls of the vessels. In the adult this weakness is due to fatty and calcareous degeneration. In the young, atheromatous changes do not occur, but fatty degeneration does. The degeneration is more apt to follow some of the acute diseases, as Scarlatina, Measles, Typhoid Fever, Rheumatism, Icterus, Acute Tuberculosis, Syphilis and Scrofula. It was once thought that minute aneurisms did not occur in childhood, but more recent autopsies prove their existence.

The direct causes are usually some act of violence which brings a sudden pressure of blood on the diseased vessel, as lifting, sudden throwing of the head backwards, straining at stool, or a paroxysm during whooping cough.

SYMPTOMS.

Loss of consciousness, coma and convulsions, elevation of temperature varying from 101° to 107° ; later, paralysis. The paralysis may be in the form of hemiplegia, diplegia or paraplegia. Aphasia is often present, strabismus occasionally, no marked changes in sensibility.

ity and the muscles usually react to the electric current. When recovery takes place it commences in the following manner: the leg first, then the face, lastly the arm. The tendon reflexes are exaggerated. Choreiform and associated movements are apt to follow, also tetanoid contractions. When the sound side is moved the corresponding muscles of the paralyzed side also move or attempt to move. The contractions more often affect the flexor muscles than extensors; the adductors than the abductors. The contractions are apt to appear early and remain permanently. Epilepsy appears in about fifty per cent. of hemiplegics. If the hemorrhage is intracerebral, involving the pons, there would be paralysis of the face on the opposite side from the hemiplegia, with marked sensory disturbance. If the medulla is affected there would be difficulty of speech and deglutition, irregular respiration, hemiatrophy of tongue, associated with paralysis.

DIAGNOSIS.

The conditions of the brain from which we need to distinguish cerebral hemorrhage are thrombosis and embolism. The symptoms resulting from hemorrhage, thrombosis or embolism so closely resemble one another that a differential diagnosis can only be made with care and continued observation of the case and then is not always satisfactory. In hemorrhage there is sudden onset, deep and perhaps prolonged coma, convulsions apt to be prolonged and often repeated, paralysis. If the hemorrhage is internal the facial nerve is involved, there is more marked sensory disturbance, less coma.

If thrombus has formed, the onset is more apt to be gradual, not a loss of consciousness, convulsions not so severe perhaps, muscular twitchings, paralysis. In case of embolism paralysis develops suddenly, perhaps monoplegic in character; coma and convulsions may, or may not be present, also heart-disease.

PROGNOSIS.

The prognosis of apoplexy in children is more grave than in adults. Prolonged coma, repeated convulsions, stertorous breathing, high temperature are decidedly unfavorable symptoms. Should the child recover consciousness there is danger of permanent loss or permanent impairment of mental faculties, and later, permanent contractures of paralysed limbs.

TREATMENT.

To arrest the convulsions, inhalations of chloroform are recommended; later, some form of bromide and the iodide of potassium to aid absorption of the clot. If the pulse is weak, digitalis is advised. For the contracted muscles electricity is advised; if this is not successful, the orthopedic surgeon is the last resort.

I would like to read the brief history of a case that came under my observation.

HISTORY OF A CASE.

On January 18 I was asked to see a child two and one-half years old, said to have swallowed a marble. I found the child totally unconscious and having convulsive movements of the right side of the face, arm and leg. The history of seizure was as follows: The child was sitting on the floor, playing with marbles. The mother heard a peculiar sound, turned around and found the child in a convulsion. She, however, attributed the condition to the swallowing of one of the marbles with which the child was playing. The child was taken about one o'clock. I saw it about two o'clock. At this time he was unconscious, had tonic convulsions of the right side of the face, arm and leg; temperature normal, pulse rapid, face flushed. At five o'clock I called again. The child was still unconscious, the convulsions still continuing though less severe, temperature 103° ; pulse could not be counted, face flushed. At 9:30, I again visited the child. The convulsions had ceased. At seven o'clock he was still uncon-

scious, temperature nearly 106° , could not count pulse, face flushed, breathing rapid, muscles of body limp. The following morning found child conscious, slight paralysis of right side of face, total paralysis of right arm and leg, temperature normal; did not speak, could swallow. The next morning, condition about the same, excepting slight rise of temperature. The next day, temperature normal, slight improvement in general condition of child; also in paralysis of face. The following day, slight rise of temperature. From this time until the day of death, so far as I observed, the temperature was not again normal, varying from $99\frac{1}{2}^{\circ}$ to 103° . The temperature record then is as follows: The night of the attack, January 18, 106° ; on the nineteenth, normal; twentieth, a slight rise; twenty-first, normal; then continuous to February 17, the day of death. The paralysis after the third day commenced to improve, first in the face, then in the leg, lastly in the arm. The improvement in paralysis continued up to about February eight. The face became normal. The leg he could move, by drawing up, could straighten it out and at times move it laterally; the arm, least of all, the movements being mainly confined to the forearm, and these movements, flexion and extension of the same. Swallowing was easily performed. He could cry but with one exception did not attempt to speak or articulate any intelligent word throughout his sickness. After this time, the eighth of February, the improvement ceased, the temperature range was higher, the child became more stupid, indifferent to food, and gradually failed in strength. Three days before death, pneumonia developed in both lungs. The previous history of the child is as follows: Healthy up to the last of the previous October when it contracted whooping cough. In December he was sick in bed for three weeks with what the mother said was threatened brain-fever. The child was just getting around from this sickness, when it was stricken with hemorrhage. My first impressions of this case were that the hemorrhage was

internal but later was inclined to consider the hemorrhage cortical, involving that portion of the brain in which the centers of motion are located.

These centers are located in about the middle third or the outer surface of the hemispheres in the anterior and posterior central convolutions, the center for the leg being nearest the longitudinal fissure, next lower for the arm, third for the face.

TRAUMATIC MENINGEAL HEMORRHAGE. *

J. C. KENDALL, A.B., M.D.

NORFOLK.

C. H. T., aged forty-seven, ran a milk-route and took care of a farm. There is no history of special antecedent sickness or injury, or of epilepsy or other seizures. For a year and a half he had suffered much from headache in the frontal region and the top of the head. A few days before our narrative begins, he had remarked to a friend, "no one knows what I suffer in my head. I have never told my wife. Sometimes my horse seems as large as an elephant. I would often forget some of my customers if my horse did not stop at their houses. I cannot always distinguish my different colored tickets." He had recently got a pair of spectacles that he might see better; still he could not, he said.

The first days of the third week of June, 1895, were very hot. The afternoon of the twenty-fifth was sultry, the atmosphere was lifeless and full of obstruction, so that the sun was not blazing, though hot. At 1:30 p. m., as Mr. T. started with his team to get the rigging of the wagon to take in hay he had just finished turning over, he remarked, "my head aches terribly." He drove the team, standing on the platform-wagon without springs, to a gateway and halted for his assistant to open the gate. With his back towards the wagon, as he was moving the gate, he heard Mr. T. exclaim, "Oh!" The horses had started to go through the gateway but halted at this exclamation, thinking it was "whoa!" As the man turned the horses were standing still and Mr. T. was falling from the wagon. His head struck a fixed stone of size. He lay on the ground a very short time, rose voluntarily and took his seat on the wagon to be taken home.

* Read before the Litchfield County Medical Association.

I was summoned by a man who came on the run; my horse was ready; as it was only a quarter of a mile to the scene, I reached there just as the team was backing into the road to carry the man to his house close by. There was no vomiting at this time, but the bladder emptied itself. The man walked into the house.

There was so little injury to the scalp that I could not readily discover where the impulse of the fall was received. The spot proved to be at the back of the head, about two and one-half inches to the right of the median line on the curve of the parietal bone. There were two vertical scratches midway of this bone. There was the merest abrasion. The scalp never swelled, no blood trickled down upon the neck; there was only a trifling serous oozing for less than four hours. I confess I discovered the spot only by observing where it stained the pillow. He never evinced any soreness in any other part of his body; no bruises were seen.

The symptoms were all negative. At no time was there any paralysis, or incoördination; pupils normal, symmetrical, responsive to light, no deviation of the eyeballs; no conjunctivitis developed. There was no suggestion of sunstroke, no sweating; elevation of temperature was only to $99\frac{3}{4}^{\circ}$; pulse full at sixty-six; no pallor; no somnolence. In an hour the man seemed to recognize his wife; he smiled. He probably did not recognize his wife; the smile was an accident. He never improved in these respects; he answered that he did not feel hurt except in his head; that his head did not ache. He did not put his hand to his head.

Continuously from this time he heard, and saw, and moved at will. All his movements were to a purpose. That night at bedtime, he rose from his bed, went to the front door of his house, locked it and went back to bed. The fourth day he was bound to go out of doors; he went to the several doors of his house, which he found all locked and tried to open; he felt for the keys, bolts and locks.

The morning of the fifth day, he seemed brightest, rose from the bed, took a seat by the window, picked up a fan, and looked out. Some one remarked, "you see it has rained." He assented, "yes." While he was thus responsive to his surroundings, he never volunteered a word; did not seem to recognize anybody except as an object. He was not submissive to his nurses. He was never delirious. He retained the sense that his rectum and bladder needed to be relieved, and on such occasions, at the sight of the vessel, he would use it, but he made no motion or call for it. He would not try to pass water when told to do so. He vomited his dinner during the night after the accident. He kept his bed strictly, slept, was never much restless, nor for a long time when uneasy at all. He lay passive with his eyes shut. The lids did not quite close from the first. He groaned frequently the first twenty-four hours. For one or two days the forehead was unusually wrinkled. Only once was the temperature 99° ; pulse for four days only sixty-seven; respiration not above twenty; fifth day, twenty-four. The fourth day the pulse was eighty-four; not quite so firm as before; later, seventy-eight. As the third day was closing, I discovered Cheyne-Stokes respiration but it was evanescent; it did not return. As he entered upon the sixth day, edema of the lungs set in—R. forty-two to forty-six; pulse rose to one hundred and sixty. The next day, R. twenty-six; pulse one hundred and forty-six. Twelve hours before death, the temperature rose to 104° ; pulse to one hundred and ninety. The man died one hour short of seven days after the accident.

An examination of the brain was permitted by the family twenty-six hours after death. There were no bruises of the body attributable to the fall. There was a vertical roughness of the scalp one and one-half inches long at the site described as the seat of the injury; no thickening of the scalp at this point. The internal aspect of the scalp at the seat of the injury differed in no respect from the rest of it. Neither the internal nor external table of the

skull corresponding to the seat of the injury showed any trace of violence. The dura was adherent to the skull; the dura was at no point adherent to the pia. There was no serious effusion, nor general bloody effusion. There was no pus nor any regions of that milky aspect of the pia often seen. Immediately upon giving opportunity for it, thick dark blood oozed out at the region of the middle fossa of the skull on the left side, not a large quantity; I mean by that, less than one-half an ounce. A small area of the superior occipital region of the brain on both sides symmetrically was congested, as also the left side on its outer surface in the middle and anterior thirds; the right side was normal. Upon raising the pia in these congested regions, the convolutions were normal. The arteries of the brain were found to have points of atheroma, especially at the bifurcations. At one point of the base for three-fourths of an inch there was a thread of atheroma, longitudinal. No miliary aneurisms were noticed.

The inferior surface of the left middle lobe near the fissure of Sylvius presented an area of softening three-fourths of an inch square; here the effused blood lay the deepest. The dura at this point exhibited a large area of redness with several areas more than one-eighth inch square of effused blood into its texture. This area of the dura lay upon the horizontal surface of the fossa and slightly upon the vertical surface including the curve. The dura in this area was adherent to the skull. The under surface of the left anterior lobe presented a similar though very much smaller area of softening. The dura at this point was unchanged. The central portion of the base of the brain, the ventricles, the fissure of Sylvius and the mass of the brain substance presented nothing unusual. There was no fracture of the base of the skull.

The relations of the factors in this case are worthy of study and discussion; they are full of interest. Similar cases sometimes become matters of frequent importance in forensic medicine. Dr. Janeway tells of an instance

where a man was arrested for carelessness in knocking down a man who was crossing the street. The driver said he did not knock the man down; he insisted that the man fell against his team, although he had clear passage. The judicial inquiry cleared the driver of the charge, as examination of the brain of the deceased revealed a fresh cerebral hemorrhage. The interpretation was that the hemorrhage occurred at that critical moment, the person lost self-control and fell towards the passing team. If the team or wheel had collided with the man it would not have caused that lesion; it would have caused simply the other lesions that were seen in the case.

There was nothing about Mr. T. to make him suffer that fall. He was used to riding standing on his wagon. He knew the habits of his team, that as soon as the gateway invited to enter they would start unbidden. They did start; they moved four feet. If they had taken him unawares he ought not to have lost his balance; if he did lose it, he was agile enough to regain it; if he could not regain it he could have jumped,—he would have jumped. At this moment something caused him to say “Oh!” not “whoa!” The team thought it was “whoa!” and stopped. The man opening the gate hearing “Oh!” and knowing it was “Oh!” turned to see what was the matter. The team had already stopped; the man had not yet fallen. He did fall; he fell limp; he was not projected. Instead of pitching forwards and striking the front part of his body he doubled over and struck the back of his head. If the team caused him to fall it was not starting but stopping that made him lose his balance, and the stopping occurred after he had exclaimed “Oh!” I cannot resist the conviction that Mr. T. had lost his self-control before he fell.* He had no convulsion, but he did lose his urine; he had not suffered sunstroke; he lay a very short time as one stunned, recovered and rose voluntarily. After this the man never gained intellectual power except as to perceptions and what to do in view of his per-

* See note at end.

ceptions; he did not originate anything except shutting the front door and attempting to go out of doors. I do not pretend that that is a strict differentiation from a psychological standpoint, but it summarizes in few words his conduct, and suggests it to you.

If the man lost his self-control before he fell it must have been by loss of consciousness. It would seem that before he fell he suffered a violent thrill of pain or perhaps a mysterious bewilderment that caused him to cry out.* Two horses and two men witness that it was a startling cry.

Was this hemorrhage primary or secondary? We know that the vessels of the brain were liable to rupture and were at this moment unusually congested. We cannot tell how much blood was effused at the outset. The conditions at the autopsy were seven days later. The blood seen at the autopsy was not a clot; it was not recent and fluid. It would seem very singular that there should have been two original points of effusion. There was no loose blood in the anterior fossa, only a point of softening with trifling effusion at the point in the anterior lobe. The inferior surfaces presented these foci; what this means in the experience of the dead-house I don't know.

As to secondary—that is, traumatic hemorrhage—the site of softening and of effused blood is in relation to that of impact by the fall, *contre coup*, and there were two points of this softening, one near the apex of the middle lobe and one near the apex of the anterior lobe, both inferior and superficial. These foci were not at the tips of the lobes; the diameter of the brain starting from the point of impact is diagonal to the anteroposterior plane; the force would be spent therefore rather at the external sides of the lobes. It must not be overlooked that as the man struck his head the vertex was down, the forehead up, so that the attraction of gravitation operated to pre-

*See note at end.

vent driving these apices into the anterior curves of their fossae.

The scalp wound was so trifling that it seems incredible that it could have been more than an abrasion; yet a man working some rods away whose attention was called from his work by the cry "Oh!" so that he looked up and saw Mr. T. fall, said there was such a crash that he thought the head must be broken in. Unless I am much mistaken, mere audible crash, especially in unaccustomed ears, is no criterion as to the violence suffered in such cases.

NOTE.—Dr. Charles Phelps of New York who was a guest of the Association, remarked that he considered that the onset in this case was epileptoid, that the hemorrhage was traumatic and that the man died septic. Dr. J. W. S. Gouley, likewise a guest, concurred in this opinion and considered the case necessarily fatal.

A FEW NOTES ON THE PROPHYLAXIS OF TUBERCULOSIS.*

J. C. KENDALL, B.A., M.D.

NORFOLK.

The purpose of this short paper is simply to reproduce some statistics in regard to the prophylaxis of tuberculosis. While the communicability and inoculability of tuberculosis have seemed to have most direct and indisputable demonstration, there has been a large contingent of physicians, some of them prominent men, who have discredited it altogether as fact, have argued against it as theory, and disregarded it in practice. The condemnation of so large a class of human beings as pestiferous was unpopular; sentiments of affection and of benevolence set up their own criteria. The matter had not been fully investigated; the conception of its necessary methods was felt to be too harsh, nay, cruel.

A foremost investigator in this direction has been Cornet. He showed that certain individuals certainly take the disease from others on a very short exposure; that certain houses are fatal to successive families who dwell in them. He found the cause of this fatality in the dirt of the houses; that this pestilential dirt was simply the result of careless, filthy habits on the part of the people.

Cornet's investigations led him to formulate that the bacillus tuberculosis is an animal parasite; it does not flourish on inorganic media; it does require a temperature which is not to be found in nature; if suitable media and temperature could be afforded the bacillus, it still is unable to compete with the saprophytics which surround it; an increase of the bacillus outside animal organisms is excluded and all the threatening germs of the

* Read before the Litchfield County Medical Society at its quarterly meeting at Norfolk.

disease, threatening to man, must have an animal origin; the bacilli do not detach themselves from moist surfaces; they therefore are not found floating in the air, hence the immediate surroundings of those sick from tuberculosis need not be dangerous; on the other hand the secretions and excretions are liable to be contaminated by bacilli. These may be dangerous to persons coming in contact with them; avoidance and proper treatment of these constitute all that is required as prophylaxis as between the sick and the well; the sputum plays the chief rôle in extending the contagium of tuberculosis. Observations show a mathematical proportion between the degree to which this sputum is properly treated and the decrease in new cases of tuberculosis; all other measures, such as forbiddance of the tuberculous to many, isolation of the tuberculous, separation of tuberculous parents from their children, are powerless if the sputum is neglected.

We are appalled to read that one-seventh of the human race die of tuberculosis, and that one-third of the race are tuberculous, at least at some time in life. I paraphrase a German proverb in the words, "Let no man think he can escape having his little nodule of tubercle." Yet the race are indifferent to prophylaxis. I expect they will not always be so. We have in Norfolk only the better classes of people. I find in my relations with people a readiness to adopt measures for self-protection on the part of the well, and the protection of others on the part of the sick. The only statistics I remember on this subject are those of governmental origin in institutions. Here is always, i. e., in institutions, our source for primary observations and statistics; authority can command regimen, and the records are kept.

As an encouragement to keep ever before us prophylaxis against tuberculosis, I have proposed to rehearse the results of such attempts as they are given by Cornet in a recent contribution. Cornet himself says he was moved to make this communication because he believed a certain indifference to the danger of infection, and

neglect of the means to prevent it, have gradually worked their way in. It is to be noticed that the communities he reports on are not separate from the rest of men and have given an opportunity to demonstrate the application of rules, but they are constantly receiving accessions from the world of people who have been exposed to tuberculosis or are actually the victims of it. The first contemplation of a regimen to guard against tuberculosis among prisoners in Prussia was in the year 1884. In the years '85-'86-'87 (Cornet says a group of years thus gives a juster average), there died of tuberculosis in the prisons of Prussia 174.7 per ten thousand. Under the new orders in the years '88-'89-'90, the mortality was brought down to 101; that is a decrease of 42 per cent. In the years '91-'92, it fell to 89.35 per ten thousand, a decrease of 48.8 per cent., and in the years '93-'94, to 81.15 per ten thousand, a decrease of 53.5 per cent.

In Bavaria the prophylaxis under the teaching of Bollinger proceeded on different lines from these we have contemplated. The leading factor in the propagation of the disease was held to be predisposition. In the years '85-'86-'87, the death-rate in the prisons of Bavaria was 184.1 per ten thousand; in '88-'89, 159.4, a decrease of 13.4 per cent.; in '91, it was 153.1, and in '92, 129.5, a decrease over '85-'86-'87 of about 30 per cent.

In the insane asylums of Prussia, the mortality of tuberculosis in 1880 was 104.5 per ten thousand; in the nineties, about 150, a decrease of one-quarter. In Bavaria, under the ideas there current, the mortality from year to year simply fluctuated up and down from one hundred per ten thousand with no essential decrease on the whole.

Among the religious orders in Prussia that care for the sick, there died from tuberculosis in '79-'80, 135.5 per ten thousand. This was so exceptionally high that I omit it for comparison and take the number for '81-'82, which is nearer the average of the previous years, viz., 114 per ten thousand. Omitting the interval, in '93-'94, this was

brought down to sixty-seven, which is a decrease of 41.2 per cent. The average persons per year concerned in these figures for Prussia were: In reformatory institutions, 11,000; in insane asylums, 35,000; in the religious orders, 3,000.

When it comes to the Kingdom of Prussia with a population of 30,000,000, in '86 the death-rate by tuberculosis was thirty-one per ten thousand; there was a steady reduction from 1886 to 1893, the last year reported, when it was twenty-five per ten thousand, a reduction of twenty per cent., and what does that mean, what is the importance of it, what difference does it make? It means nothing less than that in those seven years, there died in Prussia from tubercular diseases 70,000 human beings less than if the old average had been maintained.

A few figures relative to our own Connecticut will show that there is no great improvement with us in regard to this matter, but much room for improvement. The deaths attributed to tubercular affections are between one-eighth and one-ninth of the whole number, viz., 21.3 per ten thousand. These figures and the following are taken from the annual reports of the State Board of Health, made under the supervision and by the immediate labor of our guest to-day, Dr. Lindsley. Going back to the year 1886, when our foregoing comparisons began (we had the same old carelessness originally and the same new teaching that Prussia had):

Year.	Death rate of the State,		Deaths by tuber- cular diseases.	Per centage of total mortality.
1886	16.23	per thousand	1364	11.75
1887	17	"	1500	12.1
1888	17.1	"	1544	11.9
1889	17.7	"	1518	12.1
1890	18.3	"	1696	12.4
1891	19.2	"	1692	11.76
(There is an apparent increase in the mortality here exhibited, explainable in part as I believe by better registration.)				
1892	19	"	1646	10.8
1893	18.6	"	1711	11.5

The estimated population of the State in 1886 was over 715,000, and in 1893 about 798,000. The estimated population to-day is 815,257; the death-rate for the first five months of this year was 17.8 per thousand; deaths by tubercular diseases were 11.43 per cent. of the total mortality.

I had the curiosity to estimate the current death-rate by tubercular diseases in Paris. I took four consecutive weeks of this summer. The census of 1891 gave Paris 2,404,705 inhabitants; total mortality, 910 a week; deaths by tubercular diseases, 13.54 per cent. of the total mortality. They think nothing of having in Paris fifteen to thirty deaths by tubercular meningitis in one week.

Returning to Connecticut, these trifling fluctuations show that nothing has been accomplished in the prophylaxis of tuberculosis in our State as a whole. I expect that nothing will be accomplished until such men as these here to-day bring it about. The Connecticut Legislature and certain public teachers in our State will never initiate any reform.

I am inclined to think that this work has got to be begun and carried on in each municipality for itself, independently of every other and of joint action of the whole; each municipality is to-day, as I understand it, endowed with sufficient power. It seems to me scandalous that in view of present knowledge and demonstration of the possibility of prophylaxis against tuberculosis, no advance has been made in our State in eight years. I sincerely hope that the next decade will show different figures. I do not know that any organization in this State except the Litchfield County Association of Health Officers has recorded a resolution declaring that tuberculosis is a communicable disease.

It will be of interest to this County Association to know that the County Association of Health Officers has been mindful of what needs to be done in this direction in their deliberations. They have felt the weight of professional neglect and popular indifference in the funda-

mental steps as to what they could aim at, yet they did pass a rule that physicians shall report cases of pulmonary tuberculosis that they may do something to guard other persons from infection from those and may see that apartments vacated by such persons are purified before other persons enter them as occupants.

ETIOLOGY AND TREATMENT OF TUBERCULOSIS.

EDMOND PEASLEE DOUGLASS, M.D.,

GROTON.

The only apology I can, perhaps, offer for selecting this much debated subject, is its widespread ravages and tremendous mortality, even with our modern modes of treatment. I do not expect to reveal anything new in the etiology of Tuberculosis or point out any radically new measures in its treatment, but only to emphasize a few established facts, which may bring out a thorough discussion from you gentlemen upon this very important matter. Tuberculosis is rarely found in cold-blooded animals, as their temperature conditions are unfavorable for the development of the bacillus, but among reptiles in confinement it has been occasionally seen. In fowls it is a very common disease in their natural state, yet pet dogs and cats have been known to become infected from a tuberculous mother.

Rabbits and guinea-pigs under natural conditions, rarely have Tuberculosis, but become easily infected when closely confined.

It is a very common disease of bovines. In 1889, it was established by the United States Veterinary Association that from ten to fifteen per cent. of all dairy stock had Tuberculosis.

This disease exists in all countries but prevails in certain localities more extensively, as in the West Indies, South Sea Isles and Canada, and in many cities where people are massed together.

Toward the poles, Tuberculosis is rare and in the higher regions of the Alps and Andes. Mountainous countries like Switzerland have a very low death-rate. No race is immune but the Indians and negroes are especially susceptible to the disease, even in a favorable climate.

It is estimated that some form of Tuberculosis is the causative agent of one-half the deaths from all diseases, and there are about twice as many deaths from tubercular infection than from all accidents, including those from the modern trolley and even in our little State, there were thirteen hundred and eleven deaths from this disease in 1894.

In the history of Tuberculosis there were five progressive epochs, and regressive epochs without number, leading up to what we now understand to be the real and true etiology of this disease. Three epochs of the five mark distinct eras of discovery, from distinct individuals—Boyle and Laennec, Villemin and Koch. The first epoch dates from the period of ancient history when all diseases were observed and diagnosed only from their clinical aspects—thus Hippocrates, 400 B. C., was marked by progressive emaciation and was apparently convinced that the causative factor was suppuration of the lungs; thus Phthisis was classed the same as Empyema from the known tendency “for glands to suppurate indirectly from the brain, the greatest of all glands.”

The brain formed mucus which, flowing down from the palate and pharynx, produced pus in the lungs, if not ejected as sputum. In our present age of restless activity when every theory is so thoroughly investigated, and changed in a single year, it seems almost impossible that for over fourteen centuries following Hippocrates’ theory of the causation of Tuberculosis, no practical advancement was made as to the cause of this disease.

The second epoch began with the birth of anatomy in the sixteenth century, which gave the first accurate description of the lesions involved.

The first autopsies showed small hard masses in the lungs which were afterwards called tubercles, but at this time only regarded as curiosities—but Sylvius in 1680 made the great discovery that these tubercles sometimes softened and formed pus. He concluded that these tubercles were glands so small that they could not be dis-

cerned. He theorized that from some hereditary predisposition, as the scrofulous, or strumous, these glands enlarged to tubercles, and afterwards suppurated to form cavities. He also described the Tubercle Minora which some had taken to mean the Miliary Tubercle.

In 1700, Magnetus gave us accurate description of a case of general Tuberculosis with dissemination of Miliary Tubercles which he likened to a millet-seed and were found in the lungs, liver, kidneys, spleen and mesentery; and Disoult of Bordeaux declares, after an observation of thirty-six years, that the tubercle is the sole cause of the disease. William Cullen, a very distinguished physician, at the close of the eighteenth century, edited the first lines of the Practice of Physick and this work was issued in English and Latin, and in fact, was the chief authority of the day, but in his pathology he had not advanced much from the views of the earlier writers. He concludes that Phthisis is always dependent on ulceration of the lungs, and gives a variety of causes of the ulceration, Hemophthisis, Suppurative Pneumonia, Catarrhal Asthma and Tubercle.

Thus at the close of the eighteenth century Phthisis was regarded as produced by suppuration of the lungs, and although some of the pathologists had brought into prominence the tubercle yet it was either regarded as a curiosity or as inflamed glands, the cause of this inflammation being defined as acrimony, a juice, or scrofulous matter, developed in consequence of hereditary corruption of natural juices, or a peculiar constitution. Thus, as yet, the disease had no independent existence, or even a defined name.

The third epoch in the history of Tuberculosis was in the first quarter of the nineteenth century, and practically from the result of two observers, Boyle and Laennec. Although very little time had elapsed between the observations of these two investigators and their predecessors, yet Boyle in his great discovery of the nature and causation of the tubercle and Laennec's exposition of the

disease brought about a revolution in the study of Tuberculosis in all its aspects. Their deductions were original and not based on previous investigations.

Boyle in 1803-10 began his extensive work with the recognition of the Miliary Tubercle, and so gave it the name. He found that the large tubercles softened down in their centers, producing suppuration and finally ulceration, also that there were translucent granulations about the size of a millet-seed, and cartilaginous in consistency, hence different from miliary tubercles, which are gray and opaque and produce this same ulceration in the underlying tissues, and finding these same structures in almost every organ of the body he was not content to call them merely curiosities, but was convinced they were deposits of the same disease. He therefore pronounced the disease a general infection with local manifestations, which he called tuberculous, a disease specific in its nature, independent of inflammation of the glands or Lymphangitis, also not produced by inflammation of the lungs, pleura or bronchi, but that any of these conditions might complicate, or hasten a fatal termination, but not constitute the cause. The same with Haemoptysis, not a direct cause but a complication.

Thus Boyle described the dead facts of the disease, by showing that a person had Tuberculosis as soon as tubercles were present but he knew no sign by which these tubercles could be revealed during life.

It took Laennec, in 1819, to reveal the presence of tubercles during life and by his great discovery of auscultation he threw light on many dark points, in early detecting their presence and thus being able to differentiate Pneumonia, Pleurisy, and Empyemia, conditions which had been hitherto confounded.

The fourth distinct epoch was marked by the discovery of the inoculability of Tuberculosis in 1865. Villemin was satisfied that Tuberculosis was a specific disease and an inoculable one, that is, a virulent disease, and takes its place with Scarlet Fever, Small Pox and Syphilis and

more especially Glanders. He therefore concludes that Tuberculosis arises, either by direct inoculation by contagion, or finally as if inspired for a moment, by germs suspended in the air or in tuberculous matter. Heredity, constitutional predisposition, avocation, taking cold, are never the direct causes of this disease. Villemin demonstrated in 1865 that Tuberculosis could be communicated to rabbits and guinea-pigs, by inserting beneath the skin portions of tuberculous products, and also showed conclusively that the insertion of fresh undecomposed tuberculous matter beneath the skin in the pleural or peritoneal cavity or anterior chamber of the eye, would be followed by an eruption of tubercles in the animal within two or three weeks. If virus was taken from one of these tuberculous animals and inoculated into another, symptoms of Tuberculosis invariably followed.

Villemin was strongly of the opinion that the disease was communicated by a specific virus and was led to regard a successful inoculation as the only criterion and reliable test for tuberculous disease, that the whole etiology involves the presence of the virus, that it exists in a latent form when there is a predisposition to Phthisis; also that the virus entered the system through the inspired air, by deglutition into the small intestines, through the semen into the uterus, and once developed in the system may remain localized or become disseminated by the lymph or blood.

At this time, Klebs and Parrot claimed to have communicated the disease by sputa from tuberculous patients, also by exposing animals to an atmosphere impregnated with fine particles of tuberculous matter.

Thus the close of the fourth period, in the seventh decade of the nineteenth century, witnessed the fact that the disease was specific and that its cause was a virus capable of propagation by inoculation, but the character of the virus was still unsolved.

But in the fifth epoch comes the result of the remark-

able microscopical and histological researches of Robert Koch who by years of patient investigation has thrown more light on the etiology of Tuberculosis than any other predecessor and gave to the public the benefit of his great work in 1882 and although many careful microscopists and pathologists have continued their investigations, no material change has been made or much new light revealed in the past thirteen years. His suspicions were first aroused regarding the new and specific bacillus when he noticed that in the examination of tubercular sputa there were some micro-organisms which differed in their reaction to coloring matter. He found that they did not take certain coloring matters, as well as persistently retaining coloring matter when once thoroughly stained.

In this way Koch first arrived at the discovery of a rod-shaped micro-organism which he named *Bacillus Tuberculosis*. Koch described the tubercle bacillus as a slender, motionless rod about one-third the size of a red blood-corpuscle, five times as long as broad, generally curved, and frequently bent on itself, with rounded ends and provided with spores, which represents its permanent form.

He discovered these bacilli in all forms of Tuberculosis, miliary, caseous bronchitis, tubercle of the brain, intestinal and extirpated scrofulous glands, fungous joints, inflammation, chalky nodules of the lungs, cheesy lymph glands, spontaneous tuberculosis in the ape, guinea-pigs and rabbits naturally ill with the disease. Koch cultivated the bacilli on sterilized and gelatinized blood-serum and detailed inoculation experiments with control cases, at first in four of six guinea-pigs, then six of the eight guinea-pigs, subsequently in rats, pigeons, frogs and dogs.

He found the sputa of tuberculous patients equally as effective in the inoculation and desiccated sputa from four to six weeks; that this time did not change the viability of the bacilli.

Thus the tubercle bacillus may be found almost invariably in all cases of Tuberculosis. It is never found

in any other independent disease and a pure culture invariably produces the disease, so there no longer exists a reasonable doubt but that the tubercle bacillus is the only real direct cause of Tuberculosis, and all other attributed causes and conditions only assist the development and propagation of this bacillus.

We may therefore sum up the etiological history of Tuberculosis:

1st.—As suppuration.

2nd.—As produced by nodules.

3rd.—As distinct tubercles.

4th.—A specific virus.

5th.—The tubercle bacillus.

Patients then suffering from moderately advanced Phthisis throw off countless millions of the bacilli daily.

Nuttall estimated that one whose expectoration was from seventy to one hundred and thirty c. c. daily, threw off from one and a half to four billions bacilli in twenty-four hours, and so averaged sixteen counts. Now if one patient with moderately advanced Tuberculosis will expectorate this vast number in twenty-four hours, think of the immense quantity of tuberculous seed scattered here and there, by even the consumptives of our small State; then taking into consideration that the virulency in ordinary conditions lasts from six to eight weeks, and may be much longer, and that as yet we do not know how long the spores may contain elements of life; that for the immediate killing of the germ it takes prolonged boiling, or actual burning, or very strong disinfectants, we see a reasonable analogy for the continuation of this widespread disease, even from this one source, the sputa.

It seems highly probable that the houses of Tuberculosis patients where they have been confined for weeks and where care has not been exercised, become sources of contagion to the immediate family and others who subsequently occupy the same rooms, by sputa becoming desiccated and mixed with dust. Flick has studied the distribution of deaths from Tuberculosis in a single ward in

Philadelphia for twenty-five years, and found that about thirty-three per cent. of the infected houses had more than one case, and less than one-third of the houses became infected twenty-five years prior to 1888, yet more than one-half of the deaths from this disease during 1888 occurred in those infected houses.

Hereditary transmission formerly was considered the most prolific source of communication, but I think it has been fully established that the number of cases of direct hereditary transmission are very few; and in what way, and how frequently, are still unsettled problems—still in many series of cases, there are a suspicious number whose ancestors were tuberculous, the estimates by various authors being from ten to twenty-five per cent. But it seems almost impossible even for our most skilful investigators to draw the line between hereditary and acquired Tuberculosis, as of course children of tuberculous parents are much more liable to accidental infection, both from associating with their parents, and the inherited predisposition. Tuberculous human milk is no doubt, quite a prolific source of infection, but a more serious source is from Bovine Tuberculosis, in the shape of milk, slaughter-houses and infected barns, sputa and evacuations.

Why is not the bacillus found in butter and cheese made from tuberculous milk, also raw meat from tuberculous cows? Ernst has demonstrated that the bacilli are present and consequently there is milk infection even when there is no tuberculous mammitis.

Osler states in his practice that "an owner of a herd known to be tuberculous fed unboiled milk to his pigs which without exception became infected and the whole number had to be slaughtered."

About one year ago I had the opportunity to perform post-mortems on a herd of Jerseys, two of which showed no outward signs of the disease, were in good flesh, no cough, hair in good condition, etc., yet the mesenteric glands were extensively involved, and only a very few tu-

bercles scattered throughout the lungs. The other two cows showed decided outward signs, emaciation, short breathing, dull hair and poor appetite, with some coughing. With these two it amounted to general Tuberculosis, pus cavities in both lungs of one cow and in one lung of the other cow, tubercles in the liver, stomach and intestines, and multitudes in the mesenteries, also tubercular mammitis in one.

The source of infection was very interesting. To accommodate, the owner of these cows had taken a heifer to winter about nine months previous, and in a short time noticed the heifer was coughing quite severely and after two or three months had the heifer taken away, but judging from subsequent results, not until the whole herd had become infected. In about five months the owner noticed that the weakest cow, and I think the one nearest the tuberculous heifer, began to cough, and in a few weeks, another. The last two showed no signs, except reaction from tuberculin.

Now I do not have the slightest doubt but the heifer was the cause of the infection of all, as all looked and appeared well before their exposure. Another interesting fact, the owner did not dare to use the milk, so generously fattened a neighbor's calf with the unboiled milk. In almost eight weeks the calf was fat and sleek, and ready for market, but he did not dare to have it peddled till the autopsy should prove it was not infected. Distinct tubercles were discovered in both lungs. Now, gentlemen, have we any reason to think that children are any less susceptible to this infection than pigs and calves, and will not this mode of infection explain the great frequency of Mesenteric Tuberculosis in children?

Woodhead found out of one hundred and twenty-seven cases of Tuberculosis, one hundred mesenteries were involved and in fourteen out of this number, no other signs of the disease were present. The ages varied from one to five years.

Now, gentlemen, we will consider a few points regarding this treatment.

Prophylaxis should play an important part in all tuberculous conditions and predispositions. Patients should be educated to the fact at least that when they are promiscuously spitting here and there, they are sowing the seeds of death and should be urged to use a spit-cup, then subject it to thorough boiling; or better still, when practical, to use cloths or toilet-paper and then burn them, and in fact, I think all the other precautions which we should feel bound to take in other infective diseases. The urgent necessity of providing sanitariums in larger places, especially to receive early cases of Tuberculosis of the poorer classes, should be taught, and may be special wards in the city hospitals could be utilized for the more advanced cases; also a special sanitarium for the well-to-do classes is as urgently needed. Active steps should be taken to stamp out all tuberculous cattle and to this end thorough and systematic inspection of all dairies should be made and full power granted to kill all infected animals and in advanced cases cremate the carcasses. Also all slaughter-houses and infected stables should be thoroughly inspected. A mother with Pulmonary Tuberculosis should never nurse her child and all precautions against catarrhal affections should be taken, and every effort to improve the general nutrition of the body should be made; an out-door life with general and pulmonary gymnastics at the proper age is a very important factor in prophylaxis.

The first step is to make an early and correct diagnosis, both clinical and bacteriological. When we are satisfied that a patient is suffering from Tuberculosis in any stage, about the first question to arise in our own minds and also in the minds of our patients, is a suitable climate, as we are convinced that an out-door life is absolutely necessary for the improvement of our patient. It has been proven that the requisites of a suitable climate are pure atmosphere and equable temperature, not subject to sudden changes, and the greatest amount of sunshine, and if these conditions are present it matters little where the

patient goes, so long as he can live an out-door life. The temperature of the air is a minor consideration so long as it is not subject to rapid changes. The winter climate of the Adirondacks and Colorado, have the advantage of steady cold and sunshine, just as the Southern States and California have a constant high temperature with a large amount of sunshine; good accommodations and good food are as important as locality.

When the disease is limited to the apex in a man of good personal and family history with a well regulated life and treatment, his chances are pretty good in almost every climate, but with bilateral disease with cavities there is but little hope of a permanent cure under any mode of treatment yet devised, but life may be prolonged in a mild climate. It is a serious question whether we shall send a patient from home or not. In moderately advanced cases of Tuberculosis it is often a positive injury and hastens a fatal termination, to deprive them of the comforts of home to take, may be, a long trip with poor accommodations after arriving at their destination, and when there are cavities with hectic fever, night-sweats and rapid emaciation, it is out of the question in the majority of cases to send them away. The whole medical world was buoyed up with the hope that in Koch's tuberculin we had at last within our grasp a specific which would either cure or modify all cases of Tuberculosis, but just as soon as we expected to be able to carry this specific in our hypodermic cases and with its intelligent use to cure our patients, we were doomed to great disappointment, in that while Lupus was very favorably affected with its use and some cases in the very first stages were improved and possibly cured, yet in the most advanced stages it was positively harmful and apparently increased the general and local symptoms. So we are thrown back on the old forms of treatment, for although we know the tubercle bacillus to be the specific cause of Tuberculosis, yet we have no specific remedy to kill the bacilli in the living tissues. One remedy which has been proven to

have a decided antiseptic action in many cases, is creosote in gradually increasing doses. Prof. Beverly Robinson has long advocated its use and Sommerbrodt in Europe has recorded five thousand cases, and his conclusions as to its efficacy are decidedly favorable. To sum up the treatment of Tuberculosis,

First in importance, Prophylaxis.

Second in importance, Hygienic and Dietetic.

Third in importance, to meet all the symptoms as they arise and to give appropriate treatment to each.

THE CLIMATIC TREATMENT OF PHTHISIS.

GEORGE L. WOODS, M.D.,

COLLINSVILLE.

Tuberculosis is to-day the scourge of the Atlantic border. Statistics need not be quoted to show percentages of mortality. We are all familiar with its fearful and relentless ravages. It is no respecter of persons. It insidiously steals into our best families and marks the flower of our youth for its own until the sound of the word itself pales the cheek and carries despair to the souls of all who are threatened by it. Nobody realizes its terrible power and, as yet, the paucity of our resources for treating it, as does the physician himself, and while he bravely leads a forlorn hope against the enemy, he prays that the special experiments for an efficient remedy, now being made by leading scientists, may be speedily crowned with success.

It is only within recent years that the subject of climate as a factor in the treatment of Phthisis has received anything like the attention its importance warrants. Now, however, when every year sees an ever increasing army of unfortunates sent from home and friends in search of climatic advantages, the necessity of special study along this line is felt by us all.

With due allowance for the comparatively few who have given special attention to this matter or who have enjoyed exceptional opportunities for a wider acquaintance with the conditions involved—and it must be admitted that the number of such is constantly increasing—it yet remains doubtful whether the average Eastern physician has any question presented to him for solution on which he finds it so difficult to render an intelligent opinion. As yet cases which should never be allowed to leave home are sent to distant places on superficial knowl-

edge of local conditions; others are sent to unsuitable localities and then left to the protection of a merciful Providence; others still either ignore competent advice or of their own volition or upon the recommendation of friends go in search of an ideal climate. The legitimate results can be discounted by any practical mind.

Failures are extensively advertised, unjust prejudices against certain places arise, until the whole subject becomes confused and falls into more or less ill-repute. Beneath this chaos of conflicting opinions, lie certain facts and fundamental principles which are gradually being recognized and they have only to be studied and elaborated to furnish us reliable data for recommending a change of residence.

How many of us, for example, know anything definite about the topography, the drainage, the water-supply, the accommodations, etc., of distant health-resorts, or how a patient should live in climatic conditions widely differing from those to which he has always been accustomed? And yet there are important matters, without some knowledge of which, we cannot intelligently send our patients away. It is not enough to-day to send a man to a popular resort for consumptives, simply because he has Phthisis, but many things should be considered before such a step is taken and it will be my endeavor to point some of them out as clearly as possible within the limits of a short paper. Assuming that we all accept the germ theory of Koch, as to the development of Tubercular Phthisis, it is but a step to the deduction that the profession began wrong in the matter of exiling patients. They were sent to Florida to escape the severity of our Northern winters until, through a more intimate acquaintance, it was discovered that warmth and moisture were precisely the conditions which favored the propagation and destructive work of the tubercle bacillus. Since then various parts of the country have had and still have their advocates. The mountains of North Carolina and Eastern Tennessee, Thomasville, Ga., and the Adirondacks have all found favor in recent years.

Southern California has perhaps enjoyed the largest popularity, though that is not the case to-day. All of these places and many others possess certain advantages at certain seasons of the year. I was much interested in an excellent paper by Dr. Alton, read at the Spring meeting, in which the climatic resources of Connecticut were pointed out. It is within the observation of every physician of experience that slight changes of residence are often productive of good results. We know, too, that perfectly healed cavities in the lungs are now and then found post-mortem in people who have died of other diseases, although they may have remained in practically the same climate in which the original disease developed. We are all painfully conscious that in the treatment of disease in general, results do not always reflect credit upon our theories, but if we clearly understood the laws of heredity and the constitutional peculiarities and home environment of these exceptional cases, the anomalies might be susceptible of explanation. However we may account for a few cases which have done well at home, the fact yet remains that our climate is unsuited to the majority of cases and that, as the result of years of experimentation, it is practically settled that the four most prominent features of an ideal climate and locality for consumptives are:

1st.—Dryness of the air. 2nd.—Coolness of the air. 3rd.—Altitude and rarefaction of the air. 4th.—Sunshine.

Though the late Dr. Loomis was partial to the Adirondacks, they do not meet the requirements. Their high latitude and degree of humidity, due to many contiguous great and small lakes, are serious disadvantages.

Florida points and Thomasville, Ga., are practically at sea level and adjacent to the sea; moisture and enervating warmth prevail more or less. Carolina points lack sufficient altitude and are too close to the Atlantic.

The Medical Record of October fourteenth, 1893, contains an interesting article by Dr. W. A. Deitrich of Look-

out Mountain, Tenn., in which he claims marked advantages for the mountain as a resort for consumptives, himself being one and an exile from Indiana. I have thoroughly explored the historic ground of Lookout Mountain on foot and while I think the article is quite fairly written, I can hardly accept the statement that it is a good all-the-year-round resort. Aside from the immense Inn on the summit, the accommodations for tourists and exiles are very deficient in extent and quality, while the contiguity of the Sequatchy and Lookout Valleys and the Tennessee River cannot fail to produce moisture. The heat of Summer still further detracts, theoretically, from the value of what really is, as described, a lovely place. The summit is seventeen hundred feet above the river and city of Chattanooga, and twenty-three hundred feet above the sea. As a Winter resort, which is accessible, it can be commended to selected cases. The resorts of Southern California are at sea level and beside the sea. Coolness and rarefaction of the air are minus quantities. Practising physicians of that locality have assured me that much better results would be secured if the patients located for an extended period upon the mountains back in the interior.

I have purposely reserved all reference to the Eastern slope of the Rocky Mountains in Colorado and New Mexico until the last, because I consider that section the most important and shall have the most to say about it. In what I shall now say, I wish it understood that I speak as a New England man, born and bred, anxious indeed to deal fairly with that now popular region, but by no means as a Western enthusiast. With no axes to grind but seeking only the truth, in the interest of a most unfortunate class of patients, let us review as briefly as practicable, the claims of the Colorado climate and health resorts.

Sending patients away from home and friends to a distant part of the country to secure arrest of disease and prolongation of life, is a serious business. The element

of time figures more prominently in the recuperative process than is generally understood by the patient, and possibly sometimes by his medical adviser. To avoid semi-annual changes of base, across country, with attendant fatigue, expense and wear and tear of acclimatization, the prime requisite is a suitable all-the-year-round resort.

From what I can learn of places which have in years past enjoyed the confidence of Northern physicians, from considerable travel in more than half of the States of the Union and from personal observation and experience in a wide range of altitude, I firmly believe that the features of a climate for consumptives, which we have come to regard as essential, are found in greater degree along the base of the Rockies in Colorado and New Mexico than in any other section of our great country. This assumption is corroborated in part by Denison's Seasonal Chart, reference to which shows that the areas of extreme moisture are mainly the great Lake region, half of the Middle States, Washington, Oregon, Eastern Carolinas, Cape Cod and Southern Texas. Moderate moisture is present over the balance of the Northwestern and Eastern half of the United States, while the areas of moderate and extreme dryness cover the entire Southwest.

Considering only the outline features of the Colorado climate and but briefly, for the want of time, we find dryness and coolness of the air serve to check the work of tubercle bacilli. Owing to the absorbent quality of the dry air there is marked increase of transpiration of aqueous vapor from the lungs.

Taking Yuma, Arizona, and Jacksonville, Florida, as representative places of warm dryness and warm moisture, a calculation of the breathing of an ordinary sized man, at the same temperature in each place has shown an excess of transpiration of vapor of eight hundred and sixty-four grains per day in favor of Yuma. This was without exercise. A second calculation has been made between Jacksonville at sea level and Denver, at five

thousand feet altitude. Here we have an elevated locality, with cool, dry air, opposed to warmth and moisture. Assuming a good-sized, healthy man, thirty years old, at ordinary exercise, as breathing twenty times to the minute in both places and thirty cubic inches per breath, the excess of transpiration in favor of Denver was found to be 3,961 grains in twenty-four hours.

The advantage of a cool, clear, stimulating air for the consumptive is at once apparent when we consider the narrow range of temperature to which the natural life conditions of the bacilli are limited. Dr. Herman Weber in his Croonian Lectures on Chronic Pulmonary Phthisis, says: "This microbe does not thrive in the air at the usual temperature but requires, according to Koch, a temperature approaching that of the human body. Its growth entirely ceases below 82° and above 107° F. and it thrives best about 98° to 100°."

Rarefaction of the air plays a most important role in the process of arrest. At six thousand feet altitude, the air is rarefied one-fifth. On arrival at a high altitude a man at once experiences an increase both in frequency and depth of respiration. After a variable period of acclimatization, the respiration becomes a little less frequent but somewhat deeper. Rarefaction means less oxygen. Light, cool, dry air and deficient oxygen cause habitually accelerated breathing, which in turn expands the lungs, promotes pulmonary circulation, favors elimination of waste products, enriches the blood and facilitates nourishment of tissue.

The utility of sunshine is so apparent and it is so generally understood that Colorado is a land of sunshine that I need not dwell upon it.

Postponing further reference to the special features of the climate for a moment, I will hastily review the relative advantages of the most frequented Colorado towns, according to my own impressions. For obvious reasons, Denver is the best known to Eastern people. It is not the best place for prolonged residence by the consumptive.

Its soil contains clay and after a rain the business streets and sidewalks are filthy with a black, sticky mud which, in the shadow of high blocks, dries rather slowly even in that dry air. This nuisance is, however, being gradually removed by the laying of asphalt. The city has two or three smelters which to some extent make the air smoky. The city water-supply is partly taken from the Platte River which, at times, is very low and sluggish. Unlike our beautiful Connecticut River but like all the large Western rivers, its water is always turbid. As the city is twenty miles from the mountains, the resources of entertainment for the invalid are largely limited to the city itself. One hundred and twenty miles south of Denver lies the second city in the State, Pueblo. It is a thriving manufacturing place of thirty thousand people, but should generally be avoided by consumptives on account of the smelters and the heat and dust due to its peculiarly exposed location. After seeing so many squatters, living with their animals in adobe huts, in Summer, at low water, on the bed of the Arkansas River, from which the city takes its water, I never allowed myself to be very thirsty when in that place.

Forty-five miles northwest of Pueblo, and close up at the base of the front range of mountains, lies Canon City, of which place not enough is known or heard at this distance. It is a quiet little town of about two thousand people and lies at the mouth of a canon, through which the Arkansas River emerges from the mountains. In this canon and but six miles from the town, is found the wonderful Royal Gorge. The altitude is approximately the same as Denver, five thousand feet, and as the town is sheltered by high mountains to the north and west and has an open exposure to the east and south, it is an excellent place in which to winter or spend some time before going to higher elevations. Accommodations are quite good. The Colorado State Prison is located there, which was about the only objectionable feature that I noticed.

Manitou should be considered only as a Summer resort. Lying in a little valley, close up at the base of Pike's Peak and surrounded by high hills, with its pretty cottages picturesquely perched one above another on the steep sidehills, its large Summer hotels and pavilions clustered about the springs, it is a delightful place to visit briefly, but our phthisical invalids should never remain for lengthened periods in a place where the sun rises at ten A. M. and sets at three P. M. While walking on Main Street of that town on a December day I have suddenly noticed that the sun had set, so far as Maniton was concerned, and on looking at my watch found it to be half-past two. If the proverbial wise man really carries his umbrella on a pleasant day, he would also have his light overcoat with him, if he expected to remain out in that place some time after sunset, for there is a peculiar, uncomfortable chill in the evening air unless one is suitably dressed. Waiving the claims of other towns and places at higher altitudes and therefore appropriate only for a selected acclimated minority of cases, I will speak more in detail of Colorado Springs, because its fame as a health resort for consumptives is increasing every year and I believe that it is soon destined to become, if such is not already the case, the most popular Mecca for these unfortunates in this country, if not in the world. Although I was in many places and one Summer lived in a tent in the park region, between the first and second ranges of the Rockies, at an elevation of seven thousand feet, my home was for nearly three years in that little city, where most of the phases of this important subject passed in review every day. So much has been written in the last few years about this place that you are all more or less familiar with its general features and climate. Some of you have been there but at the risk of tiresome iteration perhaps you will bear with me while I speak of the place as I knew it, and of my impressions as to its advantages.

The comforts of civilization are to be found up there. It is difficult on first arrival to realize that so large and

fine a town can have grown since it was so regularly laid out in blocks in 1871. Making due allowance for local claims, its population is twelve to fifteen hundred. Lying upon a broad, level plain, at six thousand feet elevation, five miles east of the front range, it is most favorably located to secure the maximum amount of sunshine and ventilation, while protected by the mountains on the west and the Divide on the north from the heaviest storms and winds. The Divide, so called, is a broad elevation, fifteen hundred feet higher than the city, which projects at right angle from the range and gradually shades down east into the prairie. The plain on which the main part of the city stands, slopes slightly from north to south which favors the flow of sewerage and irrigation of the thousands of cottonwood trees which line the streets. The place was laid out on a generous plan. The streets are one hundred feet wide and the avenues one hundred and forty feet wide. The streets are simply prairie roads, smooth, hard and level, without a stone in them. This feature in connection with the large and well-appointed livery stables, furnishes exceptionally good facilities for driving and riding which are improved by the invalid public.

Its claim to be an all-the-year-round resort is well founded. Patients may go there at any season of the year. There are but few days in the year when it is imprudent for them to be more or less out of doors and they live essentially an out-of-door life. They can find entertainment in variety and at small cost by means of the extensive electric railway system. A five-mile line carries them over to the famous cañons at the base of the mountains. Another six-mile line takes them to Manitou and the Springs. If they have sufficient lung capacity, steam-cars will carry them to the mountain resorts in Ute Pass or by cog railway to summit of the Peak or to the Grand Caverns, etc.

The city has two large sanitarium, several hotels and many boarding houses. Some of the hotels are most ex-

cellent; others should be avoided. The practice of going to one of the smaller and cheaper hotels, in numbers, cannot be too strongly condemned. I can imagine nothing more distressing upon the patients themselves and the passer-by than a hotel piazza full of consumptives, as I have often seen them, comparing notes and endlessly detailing symptoms. The force of this objection applies in large degree to the sanatoria but it is only just to say that they are pleasantly located in the suburbs, with ample grounds, where games are played, affording moderate outdoor exercise, while various indoor games are provided for diverting the minds of the inmates. The board and management are excellent, physicians are in regular attendance and the cost is moderate. Better than any place in town is living on a ranch. Given to you a young man with threatened or actual incipient Phthisis, you can hardly do better than to send him to one of the ranches upon the south slope of the Divide, above referred to, north of the city. He should be instructed to live out of doors, with suitable precautions, and to ride horseback. He could gallop over the prairie swells every day to the city, if he liked, for his mail, periodicals and newspapers and thus keep in close touch with the outside world. I believe that many a life might be saved if the proper measures could be promptly adopted, but the patient should be made to understand that a prolonged residence is essential to the arrest of his disease. Frequently I read in the papers that Mr. Blank has gone to Colorado to remain a few months for his health. I can conceive of no greater fallacy than to expect any permanency of the result.

Several months are requisite for acclimatization, during which but little improvement can reasonably be expected. There is much to see that is new and novel. Such patients resent restraint. Their time is limited and their strength is dissipated in sight seeing.

The stores of Denver and Colorado Springs are full of clerks from the East, young people of limited means, who

are trying to earn enough to enable them to remain in Colorado. I have often been in stores in Winter, where the air was so inexpressibly vile that I hastened to make my purchase and get out into the glorious outside air. Comment would be superfluous.

As to the climate, as it comes, season after season to the resident of Colorado Springs: The air is always cool or cold, clear, dry and bracing. The sun is never long out of view. The Autumn is the best season; the Spring, the worst. During six months of Fall and Winter no rain falls. As a rule there is but little snow, which soon evaporates, leaving no mud, in the New England sense. Showers occur nearly every day about noon during four weeks in mid-summer. The sky clears almost invariably towards night, followed by a clear evening, night, and glorious sunrise in the morning. So regular is this programme of Dame Nature that the patients soon learn to time their excursions and avoid exposure. It is not a perfect climate. I have seen as disagreeable weather there as in New England but candor compels me to say that it is infrequent and seldom lasts more than one day at a time. A gentle breeze is felt every day in Summer. Occasionally a cold, windy day in Winter is experienced. Although disagreeable, I believe that the wind is a great benefit to that place by promoting thorough ventilation and perfect purity of air. A sand storm is a feature of the climate which nobody can appreciate. Fortunately they are seldom in evidence. The only hard one I saw in three years lasted about twenty minutes, though it took much longer to clean house after it. Soon after taking up my residence there I learned in a general way that the city's water-supply came from the mountains, being taken directly from Ruxton Creek, which flows down through Engleman's Cañon and the town of Maniton.

After two months' experience in the light air, I started one day in December, 1899, on a tour of inspection. The mouth of the cañon is at the upper extremity of the town

of Manitou. The cañon is three miles long and has high, steep, sloping sides and a varying width of two hundred to four hundred feet.

The grade varies but will nearly average a rise of one foot in five. At the bottom of this cañon, Ruxton Creek plunges down among immense bowlders. At the mouth of the cañon is the depot and lower terminus of the cog railway, which is built up along one side of the cañon—above the creek, and beyond to the summit of Pike's Peak, nearly nine miles in length. Starting from the depot at about six thousand three hundred feet I climbed up the railway track. About a mile above Manitou, I found the settler or basin in the creek, from which a large main carried the water down across country seven miles to Colorado Springs. Proceeding at the rate of a mile an hour, two hours brought me to the head of the cañon and a log cabin in a clearing beside the track which stands at nine thousand feet above the sea. It was during that climb from the settler to the log cabin that I made a startling discovery.

At intervals I found cottages standing on the slopes near the track, some of them evidently occupied only in Summer, but others were permanent homes. The out-houses for these buildings, as well as that and the barn of the log cabin, were located near the creek and when it is remembered that the sides of the cañon are steep and high, it will be seen that all drainage must inevitably have passed into the creek and down to the settler below. And this was the kind of water that was being furnished to the people of a great health-resort! On returning to town and carefully making inquiries I found that typhoid fever had been somewhat endemic there during the preceding year. The only wonder was that it had not been seriously epidemic. The question naturally arose in my mind as to how much a man was profited to go two thousand miles to escape Phthisis and die of Typhoid Fever. On discussing this remarkable state of affairs with prominent men, I learned that the facts and the peril to public

health were not generally known or comprehended. I was told that during the building of the cog railway through the cañon, which had but lately been finished, among other nuisances, the Dagoes washed their flannel shirts in the creek above the settler. When I expressed my surprise and disgust at the negligence of the authorities, my informant said that efforts to arouse public sentiment had been occasionally made, generally by medical or scientific men from the East, but that the local newspapers suppressed all letters referring to the subject and that the City Council refused to take action, essentially on the plea that the agitation of the matter and incidental advertisement, would be prejudicial to the interests of the town as a health-resort.

This suicidal policy was soon after abandoned, as the result of a determined effort made that Winter by a society of business and professional men, to protect the city water-supply from pollution. The newspapers were induced to print letters and the Council influenced to move in the matter. After the lapse of two and one-half years, during which time I knew that extensive improvements were being made, I again inspected the water works and found the very satisfactory conditions which are present to-day. On July nineteen, 1893, I started early in the morning on foot to make the ascent of Pike's Peak and incidentally visit the lakes from which the city now takes its water. A tramp of seventeen miles brought me at night to two small lakes, lying at eleven thousand feet altitude and surrounded by high peaks of the front range. Beginning there I followed the trail of the main down, three miles below, to a point where the water is discharged over a high precipice into a reservoir which lies in a natural basin at ten thousand, four hundred feet beside the upper elevations of Pike's Peak. This reservoir is called Lake Moraine. I spent the night with the keeper in a little log cabin on the shore. Returning the next afternoon from the summit I saw the water flow from the reservoir through an open, stony brook into a

new settler a mile below. This new settler is located about two and a half miles above the original settler and above are the buildings in the cañon before referred to. As the great water pipe has been carried up through the cañon to the upper settler, there is now no danger from pollution from that source. The keeper at the reservoir is a special policeman and he patrols the whole system to keep out campers. One of the last acts of President Harrison was to make a national park of the Pike's Peak region which bars out all campers and squatters and still further insures the protection of the water. I am aware that I have given the facts about the water-supply of Colorado Springs in considerable detail but to my mind the importance of this matter seems to justify the time consumed.

Considering the origin of the water from springs and melted snow of special purity and especially the precautions now taken against contamination, it may now be said to be exceptionally good.

I want to speak of one more feature of that city I have never seen alluded to by writers but which attracted my attention daily and somewhat disturbed my peace of mind. We have been called a nation of spitters and it must be admitted that the charge is well founded. The sidewalks of the residence streets are coarse gravel. The pavements of the principal business streets are laid in real and artificial stone, and they are always covered with wet and dry expectorated sputa from diseased bronchi and lungs. Considering our modern ideas as to the most frequent origin of tuberculosis; the dryness of the air and earth, and the thorough manner in which the wind now and then whirls up the dust, it would seem, on theoretical grounds, that the conditions at Colorado Springs are extremely favorable for spreading the disease among the healthy people. It would be interesting to know, if it were possible, how much danger, if any, there is in this careless habit of consumptives. Reference to vital statistics shows the number of cases of Tuberculosis, orig-

inating in Colorado, to be so small that I do not believe this is a very potent causative factor in that place, and while I do not attempt in a few lines to explain in detail the apparent immunity of the resident population, the reason in part probably lies in the fact that living and virulent tubercle bacilli may lie dormant in the body until a favorable set of circumstances arouses them to action; and again, that the cool, dry air is opposed to their lodgment and destructive work in the respiratory tract. This universal habit of the consumptives of spitting any and everywhere is, to say the least, a threatened danger and an unmitigated nuisance. It is another argument for isolation of our patients among healthy, hopeful, cheerful people.

Passing over many things for want of time, such as a comparison of Colorado Springs with the leading health resorts for consumptives in Europe, and the claims and advantages of certain places in New Mexico, which, I believe, will attract much more attention in the near future, I will conclude with some observations on the class of cases which may be sent to Colorado with some hope of receiving benefit.

As to the degree of altitude suitable at first for a given case, it must be said that it is largely a question of individual adaptability, depending largely upon the condition of the nervous system and the progress made by the pulmonary disease.

Care should be taken not to send them too high at first. The change from low New England levels to six thousand feet is decidedly abrupt. Certain cases, especially those of a nervous temperament, would find a sojourn at Cañon City an excellent preparation for the higher altitude of Colorado Springs.

Most of the cases that are suitable to send so far away would do well at the latter place, provided they were willing to be guided by advice as to place and mode of living, but it is a fact that many of them adopt a go-as-you-please style of living, essentially the same as their

life in New England, and often with disastrous results. New comers who rush about sight seeing beyond the limit of their strength, are subject to an unclassified type of fever which is locally called Mountain fever. It resembles typhoid in its diurnal remission and exacerbation of temperature, but without the lesion of that disease, and it terminates in ten to fourteen days. Physicians at the Springs often send their patients who are thoroughly accustomed to six thousand feet elevation, for two months stay in Summer, up in the park region, beyond the front range, at seven thousand to eight thousand feet, but we should never send a patient from here to such a height. Hemorrhagic cases generally do well. Life is wonderfully prolonged and surprising recoveries have occurred.

The one great rule is to go early and go prepared to stay several years. Where was the reason or sense in sending President Harrison's wife to an Adirondack lake, or of Vice-President Stevenson's daughter to North Carolina? In order to prolong life and promote comfort, somewhat advanced cases are sometimes justified in going, provided they act intelligently and go to stay. Whole families often go, in the interest of one or two members, and make their home in the City. People of very moderate means, or who must depend upon doing some work out there to meet current expenses should never be sent at all. The expenses of going and remaining are considerable for suitable accommodations, while the opportunities for a semi-invalid man to secure work are very few. It is because so many of this class go who exist, herded together in cheap boarding-houses and hotels, sleeping in small, ill-ventilated rooms, that results are so often unfavorable and so many of them come home in boxes.

Among contra-indications may be noted an active state of lung disease with high temperature. An excitable, nervous temperament would do better at a lower altitude. Valvular heart lesions, emphysema, and far advanced cases of phthisis should remain at home.

Exceptions to all rules can now and then be made when circumstances seem to justify them but general principles must guide. An asthmatic complication is generally benefited. Sending consumptives to Colorado as a last resort with any hope of material help or return to friends is simply wicked.

Patients who are sent to the Rockies should have ample means to secure suitable accommodations and live under local medical supervision. I believe that the majority of all others would do better on high ground at home, in the best hygienic conditions possible to secure, and with a carefully prescribed mode of life—plus creosote carbonate.

THE PATHOLOGY AND SURGICAL TREATMENT OF TUBERCULOSIS.

J. W. WRIGHT, A.B., M.D.

BRIDGEPORT.

Amid the cares and duties of the busy physician, we forget how rapidly changes are going on in the world about us and how we change with it, unless we review the past and mark off the mile-posts we have traveled on our life road.

In 1880 when I graduated, the germ theory of disease was in its infancy, and the opponents were not in the minority, as they are at present. I can well remember Dr. A. L. Loomis admitting the probability of a microbic origin to some few diseases, but convinced that it could not solve the problem in others. To-day the study of bacteriology takes a prominent, I might almost say a predominant, rank among our medical studies.

We not only conceive, but we see, handle, and grow pure cultures of disease, as we do the breeds of chickens in separate enclosures. Such a transformation is taking place in our views of diseases and the methods of treatment, that we almost fear to use the old familiar names of diseases and we must soon revise our nomenclature. Diphtheria will be resolved into growths of *Staphylococcus*, *Streptococcus*, or *Klebs-Loeffler Bacilli*, as determined by the cultures made at the bedside, and the treatment will be the antitoxin of the growth discovered.

We are at a period when we must move rapidly to keep pace with the rapid developments of the age. No disease has undergone greater changes both in its origin, growth, and clinical features, and in its treatment, than Tuberculosis. Instead of multiplying however, it has simplified our list of diseases. Glandular or scrofulous swellings, white swellings of the joints, bone abscesses,

caries sicca, fistula in ano, lupus, ulcers, peritonitis, meningitis, besides the chronic and acute diseases of the lungs, are simply Tuberculosis in one of its protean forms.

As a knowledge of this hydra-headed disease increases, so our methods of treatment change. We are now cognizant that the treatment by alteratives, absorbents, sedatives, etc., was a treatment of symptoms only, while the march of disease steadily progressed to the dissolution of the patient and our hopes. If you include the hypodermic needle among the surgeons' armamentarium, one might say that the treatment of this disorder is passing fast from the realm of the physician to that of the surgeon.

Dr. Warren says: "The surgeon has in fact more to do with the disease to-day than the physician." While we have lost our faith in the curative properties of our drugs, we have as yet attained no success with the tuberculin of Koch, the antitoxin of nuclein and proto-nuclein, nor the serumtherapy from animals. Ever since Koch, in 1881, demonstrated the relation of lupus, glandular swellings, Pott's disease, hip-joint disease and tubercular lesions of the joints and bones, to tubercle of the lungs and peritoneum caused by a bacillus which could be seen and cultivated, the study of Tuberculosis has been stimulated to the highest degree among the medical profession, and is watched by the laity with an eagerness unparalleled. We feel as if we were on the threshold of a great discovery, which like a will o'the wisp eludes us just as we seem ready to grasp it.

Having found our enemy, we are casting about for a suitable weapon to destroy it. To-day, leaving the question of the proper therapeutic remedies of the pharmacopœia, and the questions of climatic changes, I wish to call your attention to the tubercular lesions which we are called upon to treat surgically almost daily; I refer to diseases of the glands, bones and joints.

To intelligently consider any treatment, it would be best first to know the cause of the disease and some of the theories respecting a tubercular disorder. It is now a well established fact that the cause of every tubercular disease is the tubercle bacillus, but the entrance of a tubercle bacillus into the body does not always occasion the disease. There must be a suitable soil and the proper heat conditions of a body, necessary to foster its growth. More than that, the tubercle bacillus is liable to be destroyed by its natural enemies in the living system, which brings up to the theory of phagocytes and their properties. There is scarcely a doubt but that the phagocyte is but the amoeba or protoplasmic mass, the result of changes in the lymph before it is adapted to its use as a red blood-corpuscle, or a living cell.

The theory of Mentschikoff that the phagocytes and the bacteria engage in a warfare, whose result depends upon the numbers engaged on either side, and is betokened by the height of the inflammatory reaction, is certainly a tenable one. It is also quite probable that the battle-ground of these opposing forces is first in the glandular structures, which become enlarged and painful. When we further consider that should the disease traverse the last of the chain of glands, it is conveyed into the thoracic duct and thence into the general circulation, we begin to appreciate the value of the lymphatic system and its influence in retarding the progress of disease.

This brings me finally to one of the purposes of this paper, the treatment of tubercular or scrofulous swellings. Of all the tubercular lesions, that of the glands is the most common. Out of three hundred and eighty-four autopsies of children, who had died of some acute and infectious disease in the Blegdam Hospital in Copenhagen, one hundred and ninety-eight showed undoubted tuberculous of the glands, yet scarcely one had a sign of the disease during life.

The most manifest seat of this affection is in the cer-

vical region, because tumors in this region are more apparent on account of their nearness to the surface; but it is quite as probable since the frequent source of infection is through the mucus membrane of the respiratory organs, that the peribronchial glands are as often infected as the cervical.

The question of surgical interference therefore with tubercular glands, is an important one and not given the prominence it deserves in the text-books to which I have had access. Judging from the extracts which I take the liberty of reading, one might imply that it was justifiable to extirpate enlarged glands at any period, as a possible source of further infection was probable by leaving them.

WYETH'S TEXT BOOK OF SURGERY.

"Tubercular lymphomata should always be extirpated when tuberculosis of the deeper organs can be excluded, provided that the operation of removal does not involve a too great risk of life."

AMERICAN TEXT BOOK OF SURGERY.

"Any tuberculous nodule is always the source of danger, and should not be allowed to remain if it can be removed. There is always a possibility of recurrence, even after operation. In laying open healthy tissues, the possibility of an infection of the system with bacilli should not be forgotten; hence through a thorough removal or no operation is the rule."

DENNIS' SYSTEM OF SURGERY.

Dr. F. H. Gerrish says: "The treatment of Tuberculosis must be varied according to the needs of each particular case, but there is an implication in what has just been said that one part—and often the most important—of a surgeon's duty to a tuberculous patient, is to combat the tendency of the general system to yield to the incursions of the bacillus."

DISEASES OF CHILDREN, KEATING.

Dr. A. Jacobi on Tuberculosis: "Now when caseous

degeneration takes place in a gland, the absorption of the detritus may lead to embolic processes; if the caseous gland contains the bacillus, Tuberculosis will follow absorption. In every case then, extirpation is advisable. But the final result of every such operation is jeopardized by the fact that, generally, we have not to deal with a single isolated gland, but with a great many. For this reason the operation is liable to fall short of its aim."

SURGICAL PATHOLOGY, WARREN.

"The prognosis of Tuberculosis of the lymphatic glands is, in certain stages of the disease, not unfavorable. As has been seen, there are discovered at many a post-mortem examination infected glands whose presence during life has not been suspected. When, however, the period is reached when several glands have become matted together, forming a visible tumor in the center of which cheesy deposits have formed, the time has arrived for operative interference.

Every effort should be made to remove all fragments of the diseased tissue. It is also of the utmost importance, that the greatest care should be taken, to avoid local infection of the exposed healthy tissues."

If you will now consider the pathological description of a nodule, as a tubercular center in which the bacilli have undergone caseation, or become quiescent, and developed spores which are circumvallated by a dense wall of lymph tissue, you will perceive that though the bacilli might be capable of harm if released, they are virtually imprisoned, and there is really less danger from the hardened nodule than there is from new sources of infection. On account, therefore, of the impossibility of removing all of the glandular tissues involved, and the danger of causing infection of healthy tissues while removing them, because you may remove glands which would prove a bar to the entrance of new bacilli to the general circulation, and finally on account of the uselessness of performing a dangerous operation, my conviction is that operations for tubercular diseases of the glands should be performed,

not as Warren directs, during caseation, but after softening has begun of the cheesy mass. This should then be freely opened or excised, scraped clean with a sharp spoon, irrigated with one to one thousand corrosive sublimate solution, and after drying, inject with iodoform in ether or glycerine, and then packed with iodoform gauze.

I have mentioned especially iodoform, because it seems to have the power of destroying tubercle bacilli. The subsequent treatment of these wounds should be of a similar character, until after healthy granulation had appeared throughout the wound, when the ordinary treatment could be pursued. Perhaps I should particularize more fully; the injection of iodoform in suspension is in order to bring this agent into contact with every portion of the wound which may not be reached with the gauze. This packing should remain in the wound for several days unless there was considerable discharge which is not common in pure tubercular glands, meaning pus un-mixed with other disease germs. Care should be taken to prevent the infection of the wound by other germs.

The treatment of tubercular abscess is allied to and almost identical with the treatment of the glandular abscess, of which it is the counterpart. The focus of the abscess is the caseous degeneration of the tubercular nodule, generally in the bony tissues, which is attended with little pain and fever except at the inception of the disease, and results in the so-called cold abscess, which may exist for months before it reaches the external surface of the body. The collection of pus may be large and burrow in many directions, and finally discharge spontaneously through the lungs, bowels, bladder, vagina, skin, or any point of least resistance. The most common seat of this abscess is in the body of the vertebrae, and is associated with caries of the spinal bone, resulting in kyphosis.

The tubercular nodule in the lung which finally softens and results in abscess, is similar in character, and the symptoms identical with the progress of the softening tubercle elsewhere, lasting for months and years with

slow growth and extension and slight fever, unless septic infection occurs with other pyogenic microbes, when the inflammatory reaction becomes much more intense, as it will when infection of the cold, so-called psoas, abscess takes place.

The distinction therefore, between a chronic lung Tuberculosis and the rapid or galloping consumption, lies in absence or presence of disease germs other than the tubercle bacilli.

This view of the nature of tubercular abscess indicates the method of its treatment.

First. The surgeon should insist upon the same rigid precautions in regard to antiseptis and asepsis in the opening of tubercular abscess, as in the amputation of a leg or the excision of a tumor.

Second. The walls of the abscess should be scraped free from its tubercular membrane down to the fibrous indurated tissue below, which is free from the bacillus.

Third. Search should be made, and if possible the origin of the abscess discovered in the tubercular nodule, generally in the bone, which should be thoroughly eradicated by the curette.

Fourth. The cavity should then be injected with iodoform suspended in ether, or better a ten per cent. solution or suspension in glycerine, or a mixture can be made of

R Iodoform,	10% ℥iiss.
Glycerine,	20% ℥iss.
Gum Arabic,	5% gr. xxv.
Carbolic Acid,	1% gtt. v.
In water,	℥i.

which should be used in sufficient quantity to permeate and come in contact with every portion of the cavity. In an adult about three drams of this mixture should be used and retained within the sac, if large, by suturing and antiseptic or aseptic dressings.

There is now another affection, to the treatment of which I would like to call your attention, namely, the

tubercular joint, or white swelling. The most common seat of this affection is in the knee, and next in the ankle. The focus of disease here is more commonly in the epiphysis of the bone, though occasionally it seems to develop in the synovial membranes. In the earlier stages there is some inflammatory reaction and considerable pain, but later a swollen joint of a doughy sensation enveloped in a pale skin, which gives it the name white swelling. During this stage the pain is not severe, generally, the joint is movable but weak, and its use restricted. Still later there may develop abscesses, sinuses, dislocation, long continued suppuration and inflammatory reaction which leads to general cachexia unless arrested by amputation or excision.

It is to the treatment of the earliest stage of this disease particularly, I wish to direct your attention. As appears in the text-books at my command, the treatment may be summed up as rest and immobilization of the joint, with the use of constitutional remedies. Dr. Gibney in Dennis' *System of Surgery*, makes mention of the value of the Paquelin Cantery over painful spots, and slight mention is made by some writers of the use of iodine applied topically, but no reasons are given for the use of either.

I would call your attention to the fact that the above treatment in no way tends to a cure of the diseased processes, but prevents its more rapid increase and allows nature to repair the destruction of tissues if able; which is done in a limited number of cases after months or years of time.

The limited number of cases which I have treated, will not allow me to do more than urge a respectful consideration of the value of sweating and compression, varied with peripheral irritation, as addenda to rest and immobilization. Any means which will increase the capillary and deeper circulation, will conduce to the destruction of a tubercular bacillus and the absorption of the diseased

tissue. Hence the value of the Paquelin Cautery and the use of iodine.

Dr. Warren says: "The growth of the organisms (referring to the tubercle bacilli) is exceedingly slow, and takes place at the temperature of the human body, and very slight deviations from this point are likely to arrest their development."

It is a well known fact that bruises or sprains are likely to be followed later by tubercular infection, while a fractured bone is never the seat of this disease. It is also a recorded fact that an attack of small pox has arrested a well developed tubercular lesion. The reasons for these phenomena are that the increased inflammatory reaction of a fractured bone and the high temperature of small pox are equally destructive to the bacillus of the tubercle.

Either increase or decrease the normal temperature of the human body, and *pari passu* you retard the growth or destroy the life of the tubercle. Since heat can be better and more safely borne by the body than cold, I would therefore urge to increase the temperature and thereby the circulation in the diseased joint, as much as is compatible with the comfort of the patient.

The means I have used in producing these conditions are varied since the same line of treatment cannot always be continued. At one time the application of tincture iodine and bandaging with flannel; then perhaps immersing the joint in hot water or mustard water for fifteen or twenty minutes, and then a packing of mustard water and covering with dry flannel; again rubbing in a stimulating liniment of mustard oil, turpentine, alcohol and chloroform, covering with a single thickness of flannel and bandaging with the pure rubber elastic bandage.

If the epidermis has become too tender for any of the above, a packing of water, bound about with the elastic bandage, will be serviceable. Other means will suggest themselves to the quick-witted observer.

Thus haply combining the treatment advocated by

authors of wide experience with the application of remedies which would seem reasonable from our present knowledge of this disease germ, we may attain better results for our patients, and greater credit to ourselves.

Although foreign to the subject under discussion, I cannot forbear to speak here of some theoretical considerations which have of late occurred to me, and which I do not find mentioned in the works I have consulted upon the treatment of the tubercular lesions.

The mention I have made of the value of heat in the treatment of the tubercular joint, furnishes the text for the remarks I now make. Under favorable conditions a single bacterium in an hour divides into two, the second hour into four, and at this rate in five days they would fill the ocean. Unhindered in their progress therefore, human life would be overwhelmed with bacterial germs in the space of a few hours, and the nations wiped from the face of the earth in a brief space of time.

Unconsciously to ourselves we resist the invasion and devastation of disease germs, and in a condition of perfect health overcome the ravages of those which have already found lodgment within our bodies. What constitutes the condition of "hereditary tendency" is as unexplained, as is the power which resists and overcomes the degeneration once established.

We say that the administration of certain remedies such as creosote, arsenic, cod liver oil, etc., is beneficial and in many cases modifies and perhaps cures tubercular diseases.

The effects of inhalations of hot air, sublimated mercury, vapors of antiseptic drugs, are held by many in good repute. The favoring influences of climatic changes are extolled, but I fail to find satisfactory reasons given for any of these remedial measures.

Is it to be supposed that a few drops of creosote, however valuable as a germicide it may be, introduced into the human body will destroy by virtue of its germicidal properties alone, the disease germs? Can the inhalation

of a drug which reaches only a small part of the respiratory tract, destroy the products beneath the membranes? Can the inspiration of pure air cause to live again dead and diseased tissue? Yet 'tis even so, but why?

Why do you not find the tubercular focus at the bottom of the lung instead of at the apex? Is it for a similar reason that pneumonia affects first the lower lobe of the lung instead of the apex? If the pure mountain air of the Adirondacks is beneficial for consumption, why should the inhabitants of those regions suffer from catarrhs and pneumonias, as was recently told me by one of them? Why is it that a person suffering from consumption of tubercular variety, after a severe attack of fever and lung congestion akin to pneumonia, will become better for a time and improve instead of being made so much the worse and rapidly sinking?

To my mind the explanation of all these queries is this, that anything that will increase the bodily temperature to an extent not detrimental to the living cells, will cause the death of the tubercular bacilli and hasten the absorption of diseased products.

Cod liver oil as a synonym of nutrients increases the metabolic function of the cells, and sustains the normal activity of circulation and its latent heat, in the same way that a full stomach enables a person to better bear the cold of a winter's day.

Creosote and arsenic as types of drugs create an artificial stimulus to cell activity by some chemical processes, like the application of a vesicant, as cantharides, or a rubefacient, as mustard, to the external surface. High mountain air increases the rapidity of the heart-beat, and therefore the activity of the circulation.

Inhalations either by their irritating or heating properties, increase the blood-supply to the mucous surfaces, and therefore increase the cell activity locally. Patients in the sanitarium at Saranac Lake in the Adirondacks, sit or lie out of doors in the sun during the bitter cold of a winter's day, in a temperature many degrees below

zero. It is stated there that they feel better and do better in winter than in summer; yet the balmy breezes of summer are as free from tubercular germs as are the wintry blasts.

I have said a little while ago that pneumonias and catarrhs were prevalent in that region in winter. I have previously stated that Tuberculosis never has its seat in a fractured bone. The inference is plain; the furnace of our bodies is taxed to its utmost to furnish heat to the extremities. The cell activity of the internal organs causes rapid changes, and there is no room for the parasites of a degenerated system. Moss is not found on thrifty young trees, but the old and decayed or dead.

In the healthy woodsmen full of life and hearty in feeding, the active congestion is too much and consolidation results; but the percentage of recoveries is large, for pneumonia there is seldom fatal. After the period of softening takes place, these mountain-resorts are dangerous inasmuch as pulmonary hemorrhages are common and fatal.

What then shall we say of the uses of antipyretics to reduce the bodily temperature, which is a special provision of nature to rid herself of obnoxious burdens? We are rendered more comfortable by the use of phenacetin, acetanilid or other similar antipyretics, but the disease is stayed not, and the heart grows weaker and the resisting powers grow less forceful, and death creeps on apace.

It is more comfortable to rush to a register to warm the chilled extremities, than to stamp the feet and swing the arms to restore the heat; but well we know the difference in powers of resistance of the two methods of warming up.

One more thought and the last. The injections of Koch's tuberculin increase the bodily temperature by what means I know not, but that it has the power in some measure to destroy the living bacillus is true, though not to the extent of destroying them all.

Is it not as fair to suppose that the increased bodily temperature was more fatal to the germ, as that a few drops of a ptomaine, the product of that germ, injected into a human body in some occult way destroyed the germ? I might add that the failure of this much vaunted remedy, lies in the second part of my proposition, namely, that anything which will increase the bodily temperature to an extent or in a manner that is not detrimental to the living cell will prove beneficial, and a ptomaine cannot but be detrimental.

I do not wish to be understood, however, that toxins of other cultures may not have their virtues, but my remarks apply solely to the slower growing and more sensitive tubercle bacillus, which causes a disease essentially chronic, and not acute in its progress.

I trust you will pardon me for thus digressing from my subject, and expressing views which are new to me, but perhaps have been told before and thought over by you all. This thought however has been the key-note to the methods to be adopted in the treatment of tubercular diseases, be it by surgeons' or physicians' skill, and I trust the time has not been ill spent in calling your attention to the subject.

GRAVES'S DISEASE.

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While Basedow was the first in Germany to describe the disease known as exophthalmic goiter in 1840, Graves, an English physician, had already called attention to the symptom-complex in 1835. It would seem right therefore that if any proper name is to be recognized by the world in connection with this disease, it should be that of the Englishman, Graves, and not that of the German, Basedow.

In its typical form, Graves's disease is not likely to escape the recognition of even the most hurried physician, but Graves's disease with slight unilateral exophthalmus, and with little or no goiter is sometimes overlooked, as the following case will show:

Mrs. W., aged forty-six, says that for four years she has been greatly troubled with waves of heat which rush over her person, being especially aggravated at night, when she can't sleep and has to keep getting out of bed for relief; perspires a great deal, and feels very weak and dizzy; has grown to be very nervous and fearful and easily gets into a state of desperation over her condition. Has pain in her back, epigastrium and lumbar regions, and can't lie on her left side for pain; is two years past the climacteric; has had three physicians, all of whom told her it was "change of life" she was suffering from, and had failed to relieve her symptoms.

Present state, October, 1895: Patient, a large, well-developed, apparently well-nourished person, though anemic in color of skin and mucous membranes. The left palpebral fissure widened, so as to show sclerotic about equally above and below the cornea. Pulse in this and subsequent examinations about one hundred. Thyroid

appears to be slightly enlarged but not invariably so. Investigation of the eyes shows besides Stellweg's sign already mentioned, insufficiency of internal recti (Möbius sign), and the failure of the lids to follow the downward movement of the eyeball (Graefe's symptom). Extension of the fingers revealed a tremor which often involved the whole body. Electrical resistance much diminished; measured by the miliamperemeter in comparison with a patient suffering from simple neurasthenia, the electric resistance of this patient was as five to eleven. Especially noticeable was the mental agitation, the fear and the excitement into which she was easily thrown. Knee reflex diminished. Thus, briefly, in this patient were present, rapid pulse, slight exophthalmus, tremor, neurasthenia, diminished electrical resistance, subjective sensation of heat, insomnia, sweating, motor weakness, which certainly make up the symptoms-complex of Graves's disease, and yet under such circumstances that even good practitioners might overlook it.

The symptoms of Graves's disease are subject to great variation in their occurrence and degree of development. In connection with a case like the foregoing, it may be worth while to devote our attention more particularly to the deviations and fluctuations in the phenomena of this singular trouble. Although Graves's disease has received the name of exophthalmic goiter, the most important and the most constant symptom by general consent is the tachycardia. The goiter, or the exophthalmus may either or both be absent. The tachycardia is always present, and from the earliest period. There is however great variability in the degree of tachycardia. While in severe cases, this may reach the number of one hundred and forty to two hundred beats per minute, it is often only ninety-five to one hundred, or as Strümpell says, even eighty to ninety per minute. Physical examination of the heart reveals frequently nothing abnormal. Yet an hypertrophy and even a mitral insufficiency are sometimes found.

The exophthalmus is absent in many cases. It is often trifling in degree. It frequently involves only one eye. Dana states that this is the right eye; Oppenheim, that it is the left eye. It is rarely so severe that an actual dislocation of the eye is produced.

The goiter likewise is in many cases entirely absent, or present in the slightest degree. It is subject to a considerable variation in size from time to time even from hour to hour in the same patient. A periodical increase and decrease in the swelling is sometimes noticed. In the patient above mentioned, there sometimes appeared to be a swelling of the thyroid and sometimes none at all. It couldn't be reckoned among the constant features of the case.

Tremor is now reckoned as a cardinal symptom of Graves's disease, particular attention being first called to it by Marie. It is usually a fine tremor of eight to ten vibrations per second, affecting especially the hands. It may however affect the whole body and may become so violent that spasmodic twitchings occur in the face and limbs.

Oppenheim lays especial stress on the psychical anomalies of Graves's disease. An abnormal excitement and excitability, forgetfulness, distraction and unrest are, he declares, always present. The degree of this disturbance is however quite variable. In rare cases a pronounced psychosis is developed under the type of mania, melancholia, hallucinatory insanity, *dé lire du toucher*. In many cases, emaciation is observed which may become a pronounced marasmus. On the other hand some patients are said to be "rosy and well-nourished." Great bodily weakness is often observed, especially in the lower limbs, amounting indeed to a paraparesis. The patellar reflex is usually diminished but sometimes increased. A group of symptoms rarely missed is hyperidrosis, and probably dependent upon it, diminished electrical resistance together with subjective sensation of heat and even actual fever (100° - 101.5°). From the patient's standpoint, the

heat and sweating are often the most important symptoms. Equally troublesome is the diarrhea when it is present. Diminished chest expansion (Bryson) is claimed by some and denied by others to be an important symptom.

The deviations in the development of the phenomena of Graves's disease are nowhere more manifest than in a large group of minor symptoms which are only occasionally to be found. Among these are found such disturbances as ptyalism, xerostomia, icterus, spots of bronzing, leucoderma, local edemas, polyuria, glycosuria, dyspnea, vertigo, tininnitus, falling of the hair and eyebrows, polydipsia, bulimia and vomiting. Such symptoms are significant if present, but their absence has no significance.

The typical forms of the disease are unmistakable. The abortive forms (*formes frustres*) which lack both exophthalmus and goiter are sometimes difficult to differentiate from neurasthenia and hysteria. In such cases, tachycardia and at least one other major symptom must be present to justify the diagnosis of Graves's disease (Dana).

Tachycardia and tremor are considered by P. Marie decisive for Graves's disease. Oppenheim directs to make sure of the tachycardia by several examinations in favorable conditions. Then the coincidence of other symptoms as the Græfe symptom, the pigmentation, diminished electrical resistance, and the peculiar mental symptoms of fear and distraction are significant for Graves's disease.

The pathogenesis of Graves's disease has received many explanations. Thus it has been regarded as due to irritation of the sympathetic, to disease of the vagus, to lesion of the medulla, to a general neurosis of the nervous system and most recently to disease of the thyroid gland. The last named theory appears to be uppermost at present, and seems to me to have the weight of evidence in its favor. The arguments which support it, as given by W. S. Greenfield, are briefly as follows:

First. The peculiar proliferation of the thyroid tissue, suggesting increase of secretion.

Second. The fact that relief is afforded by operations on the gland.

Third. The symptoms of the disease are such as suggest a toxic origin.

Fourth. The contrast of Graves's disease with myxedema.

Fifth. Artificial introduction of thyroid secretion into the organism produces the symptoms of Graves's disease.

Before all other things the singular relations between Graves's disease and myxedema furnish to my mind the strongest grounds for the belief that Graves's disease is a disease of the thyroid gland.

That myxedema is a disease of the thyroid is universally believed. The grounds for this belief are briefly: First, that the thyroid is found atrophied in this disease; second, that removal of the thyroid in animals and man produced the disease or its equivalent condition of cachexia strumpriva; third, that administration of the thyroid gland secretion cures the disease.

In myxedema, we have the opposite condition of Graves's disease, namely, slow pulse, dulled intellect, dry skin, increased corporosity, atrophied thyroid. Now, exophthalmic goiter in a number of reported cases has developed myxedema; in other words, as Joffroy explains, a stage of irritation and cell proliferation in the thyroid has been followed by a stage of atrophy and fibroid degeneration. A. R. Oppenheimer recently reported the cases of two sisters, one of whom developed myxedema and the other exophthalmic goiter. Maude not long since reported the case of a woman with myxedema whose daughter had exophthalmic goiter. Both diseases are known to be hereditary. Both diseases affect women in the proportion of six to one. Both diseases are affected—the one beneficially, the other injuriously—by thyroid extract. The best treatment of exophthalmic goiter is to remove

the gland. The best treatment of myxedema is to supply the gland.

It is difficult to escape the conviction from such facts that myxedema and Graves's disease are affections of the thyroid gland, though what the exact nature of those affections may be does not yet appear. The chief criticism of this theory seems to be that many cases of Graves's disease show no enlarged thyroid and that ordinary cases of goiter show no symptoms of Graves's disease.

A similar apparent contradiction however is true of the opposite condition of atrophy of the thyroid, and dementia. While in myxedemic dementia, the thyroid is atrophied, in the dementia of cretinism, the thyroid is enlarged. It is evidently not simply a question of hypertrophy and atrophy of the thyroid, but of perverted function of the gland and doubtless something more. The fact remains however that in both conditions treatment directed to the thyroid proves the most successful.

The physiology of the thyroid gland, heretofore wholly unknown or a matter of conjecture, becomes more interesting and apparently more attainable. The thyroid evidently is an important organ to the nervous system. Defective or perverted secretion causes idiocy or dementia. Excessive or perverted secretion causes a state of exaltation up to mania. Hurthle's experiments show there are two forms of secretion in the thyroid: First, secretion of the follicular epithelium, colloid material; second, a secretion formed by destruction of the cells. The significance to the system of these secretions is however wholly unknown.

The prognosis of Graves's disease depends on the degree of development of the disease. When the disease is well developed, recovery is rare. A few cases have been reported where the disease ran a rapid course, ending fatally in a few months. Usually the disease runs for years and death occurs from a developed heart-lesion, or marasmus, sometimes from vomiting or diarrhea, or a mental

affection. Cases beginning in youth give a more unfavorable prognosis than those beginning later in life. In cases imperfectly developed, or when the symptoms are not severe and the general condition is good, the prognosis is relatively favorable.

I have said that the most successful treatment of Graves's disease is operation, namely, partial thyroidectomy. According to A. R. Oppenheimer, out of sixty-eight operations on record, eighteen completely recovered and in twenty-six, there was improvement. Nine operations were fatal, and in the remainder no permanent improvement. This makes a mortality of fifteen per cent. and improvement in sixty-five per cent. But thyroidectomy is clearly a dangerous operation, and is only indicated in the severer forms of the disease with bad prognosis. Apart from operation, the most successful treatment of Graves's disease is electricity. A. D. Rockwell reports fourteen cures out of forty-five cases, by the use of electricity, galvanism and Faradization. In the foregoing case which I have reported, galvanism was employed as the basis of treatment. Two oblong flat electrodes about two by four inches were placed, one over the thyroid in front, and the other around the nape of the neck. A current of about two miliamperemeters' resistance was employed for about three minutes at a session. Some forty-one treatments were given. In addition, the bromides, tincture strophanthus, and iron were used for varying periods and in varying amounts. Gradually the symptoms subsided until at the end of three months, the patient declared herself cured. As a matter of fact, the pulse was averaging about seventy, the sensations of heat were gone, she could sleep well, was not nervous, was able to do considerable work without disturbance and had the look of a fairly healthy woman. Her left eye would sometimes show the Stellweg sign and sometimes not. The tremor was gone though it always reappeared with the application of the galvanic current. In my own estimation, credit for the change belongs to the electricity.

Ten years ago, after some forty or fifty applications of the galvanic current of considerably larger volume, I saw a simple goiter disappear that had existed for a year or more in one of our school-teachers. I believe the electricity may act to reduce the size of the gland; in other words, like a partial thyroidectomy. But with electricity, one must have patience. Hirt remarks, "not generally till after twentieth or thirty-fifth treatment are we able to observe a steadily increasing improvement. An important point to bear in mind is the diminished electrical resistance of the patient on account of which strong currents cannot be borne. Oppenheim tells us that by not regarding this, he did injury to a patient in his early neurological practice.

Very important in the treatment of the disease is the treatment for the neurasthenia, namely, absolute rest, quiet and the use of bromides or other remedies for the relief of excitement and insomnia. I had great faith that tincture of *strophanthus* carried up to fifteen drops three times a day was doing wonders, but found the patient just as well when it was left off. Iron is indicated for the usual condition of anemia. Multitudes of remedies have been given, but apart from operation, the three most important agents in a cure are electricity, bromides and rest.

REPORT OF FOUR CASES OF THYROID FEEDING.

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The four cases here presented, two of exophthalmic and one of simple goiter, and one of fat reduction, have been under observation the past year. They form the basis for the notes and commentary following their report.

CASE I. EXOPHTHALMIC GOITER.

Mr. W. Born in Connecticut, age thirty-three, married, business manager, no special heredity, New England parentage, nervous type. Patient was born in 1863, and although mother was in good condition during pregnancy, she was in a state of mental worry over relatives in the war. Birth and delivery normal. Child was well and strong until three and a half years when he had a severe attack of whooping cough. He was extremely nervous and a limited number of convulsions occurred, generally in connection with indigestion. Measles followed the whooping cough, with an abscess in the right ear, resulting in a permanent diminution of hearing on this side. The nervous condition subsequent to these illnesses was alarming in respect to precocity and over-sensitiveness, and the parents feared mental symptoms might develop. In connection with the fact stated in the following sentence, this query is raised, Could this peculiar and exceedingly nervous state at this early period of the child's life be attributed to a disturbance in the function of the thyroid gland? At eight years the mother first noticed a fold of skin in the neck, corresponding to a slight enlargement of the isthmus of the thyroid gland. From ten to fourteen years, was subject to severe headaches and was more or less nervous. Puberty occurred at fifteen without special symptoms except that the first thyroid enlargement appeared at this time, following a course of

hard study. The fold of skin in the neck, or isthmus, was alone prominent and the only part affected. The enlargement was slight but very distinct and the patient was very nervous. The pupils were dilated, but there was no exophthalmus. In two months the swelling subsided and he returned to his studies.

The second enlargement: Nine months later, in his sixteenth year, the thyroid gland began again to enlarge and in three months the neck measurement had increased from fourteen and a half to seventeen inches. The entire gland was involved. The pupils were widely dilated and at the climax of the swelling, exophthalmus appeared, lasted two weeks and then faded away. This symptom has never returned, although the pupils were again dilated during the patient's stay in Germany. The presence of tachycardia and marked nervous symptoms made the diagnosis of Graves's disease now certain. During the next three months, patient came under the care of Dr. E. G. Janeway of New York, and ergot, galvanism and general sedative treatment were tried without effecting any improvement. At the end of this period he had a sharp attack of bronchitis which increased the measurement of the neck to eighteen inches. The esophagus was crowded and swallowing was slightly interfered with. The goiter became very hard and two small lumps, the size of hickory nuts, formed in it. They were supposed to be calcareous.

In the eighth month of this enlargement the patient fell into the hands of a mesmerist, who exerted a general calmative effect upon him, with a resulting decrease of the size of the tumor. The measurement of the neck gradually receded to fifteen and a half inches, and the goiter was once more soft and pliable with the exception of the hard nodules.

The third enlargement: In his seventeenth year, after an interval of about nine months' rest from active goiter symptoms, the patient's studies were interrupted by an attack of typhoid fever. His neck however remained at

its natural size, fifteen and a half inches, until a post-typhoid cough developed which caused the goiter to reappear and sent the neck measurement up to eighteen inches. Again the patient went under magnetic treatment, so called, with gradual improvement in his condition so that he was able to enter college.

The fourth and last pronounced enlargement occurred in his nineteenth year, seven months later, and was preceded and accompanied by the usual nervous condition. This was the most severe of all the exacerbations and may be considered the climax of the disease. After four months of no improvement the patient went to Germany and was subjected again to the iodine and iodide of potassium treatment. Later, he came under Prof. Nussbaum's care, and arsenic and compression bandages were tried for two months. The patient grew steadily worse and in the tenth month of his attack he returned home, presumably to die. The sea-voyage diminished his nervousness but his neck measured twenty-one inches and the pulsations were tremendous. He again consulted a clairvoyant with immediate relief. The calmative influence and wahoo bark as a depletive for the blood-supply brought about in six weeks a reduction of three inches in the size of the neck.

During this exacerbation the nervous symptoms were most prominent. The tumor and restlessness were excessive, breaking his sleep and inducing extreme anxiety as to his condition and prospects. The pupils were dilated but there was no exophthalmus, patient thinks. The goiter was in its most active state and the disturbance in the circulation very marked as to rapidity of pulse, palpitation and congestion of the head and neck.

During the two years following this last attack the patient's condition was quite comfortable. Dr. Janeway tried compression of the carotids for ten weeks. Dr. A. D. Rockwell subjected him to a three months' course of electrical treatment. No appreciable benefit or change resulted from either.

In the third year after the climax, the patient tried

the effect of a sea-voyage to Europe in a sailing vessel. The trip across did not change the appearance or size of the goiter, but it had a marked sedative effect upon the pulse and circulation. After his return home his condition continued to improve, and in the fall of the same year, the patient began a more purposeful and active out-of-door life. His attention was taken up in his work, and not so self-centered as formerly. He had become reconciled to his goiter and the probability that it could not be cured.

During the next eleven years, the patient's health was very good, and although he was subject to considerable strain at times, the neck measurement did not increase beyond sixteen inches.

At the end of this period, the fall of 1895, the patient was more than usually tired and nervous, and he began to feel heat in his neck, with enlargement of the goiter. After two months' rest his nervousness subsided and the seventeen inch neck girth was reduced half an inch. The following spring although his general condition was better, the goiter was enlarged and he commenced taking dessicated sheep's thyroid.

EXAMINATION—NO ACTIVE GOITER SYMPTOMS.

Patient has a florid complexion and appears full-blooded. There is no organic affection of any kind. The bowels are inclined to be torpid. The appetite, digestion and kidney functions are normal. The sleep is usually good, inclined somewhat to dreams and he often perspires freely in the night; seems to require considerable sleep. The pulse averages seventy-six and is very susceptible to excitation. The heart sounds are strong and heard more diffusely than normal over the chest. The sternum is somewhat depressed and the general chest contour shows lack of full development. Measurements: Expanded, ninety-one centimeters; contracted, eighty-six centimeters; range of expansion, five centimeters or two inches. No motor or sensory symptoms. Tendon reflexes

active but not exaggerated. Capacity for work about normal but patient feels more tired at end of the day than the ordinary individual.

The eyes show no trace of exophthalmus. The pupils are normal in size and reaction with the exception that Möbins sign, insufficient convergence, is present. Fundus and vision normal. On one occasion when the patient was tired and under nervous tension, the left pupil was noticed to be larger than the right, and there was a tendency to blurring, when he read alone with this eye.

Examination of the ears showed absence of the right membrannu tympani and evidence of chronic middle ear disease. The left ear presents no external evidence of disease.

Hearing power:

Watch—R $\frac{25}{50}$; L $\frac{40}{50}$.

Tuning fork (middle C.) Aërial conduction, R. $\frac{15}{60}$; L. $\frac{50}{60}$.

“ “ “ Bone “ R. $\frac{40}{60}$; L. Normal.

The anterior aspect of the neck shows a flattened but distinct enlargement of the entire thyroid gland. All parts are outlined and uniformly involved. The tumor is much larger on the right side than on the left and is soft and glandular to the touch and contains no hard lumps. There is no thrill or pulsation on palpation and no murmur on auscultation; pulse seventy-six. When the goiter is in an active state, as at the time of beginning the thyroid feeding, the enlargement is very pronounced. There is a thrill and murmur and the gland feels like a mass of throbbing blood-vessels. The pulse increases to 100-110 and is full and excitable. There appears to be an over-supply of blood in the system of the patient and in connection with this condition there exists universal arterial relaxation.

Intellect strong, will power and memory good. He is emotionally inclined but there is no hysteria. Temperament is distinctly nervous but under good control.

Certain peculiarities of character* exist as follows:

* Compare Mande, Journal of Mental Science, January, 1896.

1. The general state of mind is not even and steady; that is, the patient is apt to be at one time over-sanguine and enthusiastic, and at another gloomy and depressed, and inclined to pessimistic views. When health is below par this morbid view is apt to be hypochondriacal as regards his own condition. This tendency to hypochondria was well marked in patient's father.

2. There exists a restless tendency in the patient's mental habits as well as in his physical conduct.

3. Sensitiveness as to the opinion of others; very easily offended.

4. Rather stubborn in argument and not inclined to yield his opinion and entertain the testimony of the opposite side. These characteristics are present and clearly exhibited, not only when patient is suffering from active goiter symptoms but also when the gland is quiescent and the patient is in good condition.

RESULTS OF THYROID FEEDING.

1. When patient began taking the five grain thyroid tabloids of Burroughs, Wellcome & Co., he was in a convalescent state from a general nervous condition, with goiter enlargement. The dose was one tabloid after each meal. In ten days the diminution of the size of the goiter had decreased the measurement of the neck three-quarters of an inch, and the pulse had dropped from one hundred and two to eighty. The apparently beneficial effect was very marked. The patient had no idea of the nature of the medicine and no suggestion was given him as to its effect. The signs of increased metabolism were indicated by greater quantity of urine passed, copious fecal discharges (for a short time only), free perspiration, loss of bodily weight. The only unpleasant symptoms noticed were a feeling of dulness and heaviness in the head with greater difficulty to think; the eyes also felt strained and patient would tire easily. As the patient became accustomed to the remedy these symptoms disappeared and the excretions were less pronounced. At

the end of three weeks of thyroid feeding the neck had become reduced to its usual size and the pulse averaged seventy-six. The tabloids were continued several weeks longer but no change in the patient or size of the goiter was noticed. The patient was well and able to do his work better than ever during the following Summer and Fall, and Winter. This Spring (1896) as the result of coughing from an attack of bronchitis, the neck enlarged to seventeen inches. After the acute symptoms had subsided the patient began the tabloids again, and in three days the goiter and pulse returned to their normal state.

The effect of the thyroid preparation in reducing the pulse-rate and increasing the arterial tension was very noticeable and attended with most satisfactory results to the patient. A number of attempts of steady thyroid feeding at various intervals have been made to effect still greater reduction in the size of the goiter, but without success. No loss in weight has occurred except at the original administration when full doses were employed. This was regained as soon as the tabloids were discontinued, and later on, the patient weighed more than he ever had previously. During the last half year he has used the remedy very infrequently and only at such times as he felt overtired and noticed that his pulse was rapid and that there was a sense of oppression from the dilated arteries. A single tabloid would almost invariably correct this condition and a second or third dose was very very seldom necessary.

CASE II. EXOPHTHALMIC GOITER.

Mrs. A. Born in Connecticut, age twenty-five, married. Parents reported to be of nervous temperament, and both have heart-trouble. As a child, patient was nervous and sickly. While a young girl she was severely scalded on the right arm, shoulder and side of the body. This accident greatly impaired her health, and has helped to make her a partial invalid. At twelve years patient had measles, with middle ear disease and a diminution of

hearing in both ears. Puberty was passed without special symptom. From twelve to fourteen years throat was irritable and was troubled with excessive coughing. Patient's schooling was much interfered with on account of poor health. A noticeable degree of exophthalmus appeared at the age of eighteen. It was equal in the two eyes and would subside and reappear according to the health of the patient. Palpitation of the heart and difficulty in breathing developed after the exophthalmus. Three years later and one and a half years after the birth of her child, an enlargement of the thyroid gland was noticed. This was observed by a physician and it had not attracted the notice of the patient, hence the exact time of the goiter development is not known. Its discovery, now four years ago, was made subsequent to an attack of La Grippe with which however there was no coughing.

EXAMINATION.

Patient appears to be in good flesh, but pale and weak looking. The vascular system seems well filled even to mild dilatation, but with a poor quality of blood. There is no true anemia but an approach to it. The menses are somewhat irregular. The eyes are noticeably prominent, the degree of exophthalmus being equal in the two eyes. The pupils are slightly dilated, but reactions are normal. Both Von Graefe's and Stellwag's symptoms are present. Möbius symptom is absent. Vision and fundus normal.

Hearing power: Watch, R. on contact; L. at one inch. Tuning fork, Aërial: R. $\frac{1.5}{6.0}$; L. $\frac{1.0}{6.0}$; bone, R. $\frac{2.5}{6.0}$; L., $\frac{2.0}{6.0}$. Tinnitus exists in R. at times.

Taste and smell normal, but not acute. Tremor in hands very distinct. Romberg symptom, of psychical rather than motor import, is present, knee-jerk very active, but not exaggerated. There is a slight tendency to ankle clonus on the left side. No organic disease. Heart sounds full and ringing, especially at the base, and over a wide area of chest wall. Pulse one hundred and fifteen to one hundred and twenty, full, strong, excitable, and

only moderately tense. Chest not well developed (Fiske-Bryson sign). Inhalation, 78 centimeters, exhalation, 74.5 centimeters, expansion 3.5 centimeters. The right arm and chest is one large cicatricial field, which by contraction at the axilla, limits the movements of the arm considerably. At intervals parts of this scar break down and suppurate for indefinite periods.

The thyroid enlargement is distinct, but not prominent and might easily escape observation. The right side alone appears to be affected but the substance of the entire gland can be plainly felt and outlined. It is as large now as it has ever been, being about the size of a silver dollar, and projecting half an inch from the surface level of the neck. The tumor feels soft and vascular rather than glandular. A purring thrill is felt of constant character, vibrating the right side. On the left side it is not felt.

The pharynx is very much contracted and filled up with large congested tonsils. There is a condition of chronic catarrh and the patient is much troubled with coughing spells, and at times with partial loss of voice.

The intelligence and mental faculties are of good order. No hysteria. Temperament is distinctly nervous. At present she is extremely restless. She is not able to apply herself, physically or mentally, to one object for any length of time.

THYROID FEEDING.

The English five grain tabloids were taken three times a day for one week before any symptoms were noticed. Then the patient grew nervous, lost sleep and appetite, and the menses appeared one week ahead of time. No special symptoms accompanied the function. At the end of the third week the thyroid feeding was discontinued. The patient was in a nervous, trembling, hysterical state, with temperature at 102.3° , pulse 126 and respiration thirty-two. She ached and had burning pains all over, could not sleep and was in a constant state of nausea.

Active tissue-change was evident by the free perspiration, passage of large amount of urine and frequent movements of the bowels. The patient rallied from the effect of the thyroid feeding and a month later a second trial of the remedy was made. At this time the menses were twelve days overdue and the patient was in a nervous, restless state of mind with pulse at one hundred and twenty. Tremor was present and very marked. One quarter of a five grain tabloid was taken t. i. d. On the fourth night she awakened suddenly with vomiting and diarrhea and for twenty-four hours her stomach could retain no food. There was no fever and no sign of the menses until a week later. Thyroid was discontinued.

Examination nine months afterwards showed her to be much improved. This is due, it is believed, to living under better conditions and also to a natural decline in the activity of the goiter symptoms. The exophthalmus is about the same. The thyroid enlargement is distinctly less noticeable. The thrill and murmur, which before were constant, are now rythmical and synchronous with the carotid impulse. The pulse is ninety-eight, small, and does not indicate arterial relaxation. The heart-sounds are less ringing and diffuse. The patient has lost weight and instead of the former anemic plumpness appears much thinner, but in better color and blood. Menstruation occurs at intervals of three weeks and with somewhat more discomfort. There exists the same mental and physical unrest. The muscular restlessness is athetoid in character.

CASE III. SIMPLE GOITER.

Mr. C., age forty, born in Connecticut, married, mechanic.

No special heredity—except that the mother is nervous. At eight years had whooping cough and later, pneumonia. The cough was severe and persistent and following this the goiter appeared, that is, in his ninth year. At first it was the size of a hickory-nut and only the isthmus was involved. Later, it developed more on the right side. It

gradually grew in size but no treatment was attempted until his twenty-first year. Again at his thirty-fifth year an effort to reduce its size was made by cutting into the goiter and inserting two separate rubber tubes, which have kept up a discharge until six months ago. The tumor was not benefited by this procedure. The patient has always been well and vigorous, and the goiter has never caused trouble or prevented patient from attending to his daily work. He has an easy, placid disposition and a mild but distinctly nervous temperament which has been kept latent by the circumstances of his life. The same man under easier conditions, with time and money at his disposal, would be manifestly nervous.

EXAMINATION.

The patient is strong and muscular. There is no organic disease and no motor or sensory symptoms. The body functions are normal except a tendency to constipation. Is not subject to vertigo, headache, neuralgia or rheumatism. There is a history of several minor nervous attacks occurring at rare intervals.

Enlargement of the thyroid gland represents a mass eight inches wide, seven high and five deep. It is much larger on the right side. The tumor covers an area on the anterior surface of the neck bounded by the posterior edges of the sternocleidomastoid muscles, on each side, and extends from the hyoid bone above, down to and overlapping the sternum to the level of insertion of the second ribs. The measurement of the neck is 51.5 centimeters. The artificial sinuses are situated, one in the isthmus and the other in the right lobe. The goiter is glandular rather than vascular, and no thrill or pulsation is felt in its substance. An indistinct soft bruit over different parts is heard, transmitted from the vessels of the neck. The pharynx is normal. The heart-sounds are strong and ringing, pulse ninety-eight, full and mobile. The chest expanded thirty-eight and a half inches; contracted, thirty-five and a half. The hearing is good and

equal in both ears. Eyes normal, as to vision, pupils, etc. There has never been any exophthalmus, tachycardia or nervous symptoms.

THYROID FEEDING.

Patient began with the five grain English tabloids a year ago and continued to take them with very great regularity for a period of seven months. At the end of the second week the goiter felt soft and pliable and the neck measurement fell off one centimeter. The pulse became normal in frequency and was less strong and full.

The patient felt more tired and dull and the appetite was poor. His weight decreased four pounds. Gradually the dose of thyroid was increased and at the end of four weeks he was taking thirty grains a day. The excretions were stimulated and the patient lost another four pounds. There was no headache, but a dull, languid feeling. He felt more tired on getting up than on going to bed. The neck measurement was reduced 2.5 centimeters. Three weeks later the dose was forty-five grains which he stood well for nearly four weeks. The chief symptom was the feeling of weakness in the knees (Paraparesis, Charcot). After stopping the drug a few days, he resumed at a smaller dose. In the fourth month his weight had been reduced eighteen pounds. In two weeks' rest from the medicine he made up this loss, but the neck did not increase correspondingly, as might have been expected.

During the next three months, patient would take the drug in varying amounts as he seemed to bear it. His weight remained normal at one hundred and seventy-five pounds and it did not decrease. The sleep was good and all the functions of the body were normal. The neck measurements reached 45.5, a total gain of 6 centimeters or 2 3/8 inches. The patient now omitted the thyroid feeding one month and at once began to make more blood and gain flesh. The goiter did not change much in size, however, until near the end of this time, when he was subjected to an unusual strain of stooping over and lifting

and at the same time caught cold. The result was to bring the goiter back to its former size with a pulse running at ninety-eight.

The patient was again started with the thyroid tabloids, three after each meal or forty-five grains daily, and at the end of four months his neck measured forty-two centimeters, showing a reduction of nine and five-tenths centimeters, or nearly four inches. At first the patient lost ten pounds but since his weight has remained stationary. All the functions of the body have been normal, the patient has felt well and has worked at his trade daily. The only symptom he notices is the weakness in his knees which comes quite regularly toward the end of two weeks constant thyroid feeding. At this time he stops the tabloids for one, two or three days and then returning to them, when the paraparesis disappears. The appearance of the neck is very much improved, more so than the reduction in measurement would indicate. The left side shows no swelling whatever, the isthmus is represented by a small, hard mass, and the right lobe only is prominent, being the size of a hen's egg. The patient is now resting from the thyroid feeding and is under strict orders to avoid muscular strain and subsist on a somewhat reduced diet. Later, it is proposed to again try the feeding in the hope of reducing the goiter still more.

CASE IV. FAT REDUCTION.

Mrs. D., age fifty-five, widow, American, matron, heredity good, always well and strong. Only complaint is periodical headache every three to five weeks. Menopause ten years ago. Only sickness of late years was five years ago and was the result of overwork.

Examination showed no organic disease and patient was found to be in excellent condition.

THYROID FEEDING.

At patient's own request an experiment in reducing her fat was undertaken by feeding Borroughs, Wellcome &

Co.'s tabloids of dried thyroid. Her weight at this time was one hundred and ninety-two pounds, which could not be called excessive for a person of her height and build. Nevertheless her flesh was gradually increasing and the shortness of breath and rapid exhaustion greatly interfered with her daily work as matron of a large institution.

First Thyroid Administration.—Patient began with one-quarter of a five grain tabloid, t. i. d., and gradually increased. The following daily program was made out for her, and this with few exceptions she faithfully carried out:

On rising: Glass hot water. Seventy-five deep breaths at open window, gradually increased to 200. Abdominal exercises. Breakfast: One egg or its equivalent in meat, one slice of wheat toast, no butter; one saucer cereal, milk but no sugar; one cup of coffee, milk and saccharine; cucumbers, radishes, lettuce or other relish. After breakfast: A rapid, vigorous walk, one hour; housework. Middle of morning: Seventy-five deep breaths, etc. Glass of cool water. One and a half hours before dinner, cup of hot water. Dinner: Soup; all meats; all green vegetables; no potatoes; one slice of wheat bread, no butter; no pastry or sweet dessert, lettuce or other salad; fruit, water or tea with saccharine. One hour after dinner, sponge bath with hard rub to abdomen; housework.

Middle of afternoon seventy-five deep breaths, etc., glass of water. One-half hour before supper, cup of hot water.

Supper: Small bit of meat or egg, one slice toast or stale wheat bread, no butter, one saucer of cereal, no sugar; lettuce or other salad; water or tea with saccharine.

Evening: Vigorous walk of an hour. On retiring, seventy-five deep breaths, etc., abdominal exercises, glass of water.

In the fourth week when the dose had reached one and a quarter tabloid t. i. d., the patient felt tired, back ach-

ed, lost appetite, perspired freely, passed more urine, and the pulse went up to one hundred and ten. On reducing the dose to one tabloid t. i. d., these symptoms disappeared. At the end of the fifth week, patient had lost sixteen and a half pounds and it was thought best to stop the thyroid administration for a time. Aside from the transient symptoms in the fourth week the patient experienced no unpleasant feelings.

PHYTOLINE ADMINISTRATION.

During the next seven weeks a preparation of poke berry, called phytoline, was tried. The dose was ten drops six times daily. At first the patient was nauseated, the bowels constipated, and she could not sleep. In a few days these symptoms passed away, the appetite returned and she felt very well, better in fact, than for a long time.

During this period patient lost thirteen pounds. Most of this loss is attributed to the prolonged effect of the thyroid and the manner of living. The effect of the phytoline is doubtful. There was evidence of less tissue change than under the thyroid although the pulse averaged high, eighty to eighty-four. In the fifth week the dose was increased to twelve drops, six times a day. Constipation resulted for a few days, but the amount of urine passed was about the same as before.

THE SECOND THYROID ADMINISTRATION.

This followed immediately after the phytoline experiment and began with the original small dose, one-quarter tabloid t. i. d. In the first five days of this second trial of the thyroid the patient gained half a pound. After that the dose was increased to one-half a tabloid t. i. d. and in a week's time she had lost three pounds. At this time patient tried for two days the experiment of reducing the amount of liquids taken. The constipation became marked, urine decreased in amount, throat dry, and the patient desperate with a thirst which required several

days free drinking to allay. In the third week she felt weak and the pulse went up to one hundred and twenty-five and there was an uneasy sensation about the heart. Medicine was discontinued for a day. In the fourth week the dose was increased to three-quarters of a tabloid, and then very gradually brought up to one and one-quarter tabloid t. i. d. by the end of the seventh week. At intervals there would be physical weakness, and increase of the pulse, heart uneasiness and marked thirst, but her work was not interfered with and on the whole she was fairly comfortable. The dose of thyroid was now steadily lessened and at the end of twelve weeks stopped. The patient's weight fell off twelve and one-half pounds in the first seven weeks of the second administration and in the following five weeks, the period of reducing the dose, there was a loss of eleven pounds. The total reduction in the whole time under experiment, four and one-half months, was fifty-three pounds. She states that a year and a half ago a swelling developed in the right popliteal space about the size of a small hen's egg. It was diagnosed as a fatty tumor, and under the thyroid administration has entirely disappeared.

The patient reports as follows, five months after stopping the thyroid: (1). No further loss of weight. (2). Appetite did not return until three weeks after discontinuing medicine; in first administration it came back at once. (3). There was a greater amount of urine passed three weeks after stopping the thyroid than during the last week of administration. (4). Bowels, skin and heart-action normal. (5). Can exercise freely without exhaustion and dyspnea and patient's daily work is accomplished with ease. (6). Reports that she feels better than she has for the last five years; headaches much less frequent; is happy at the result and only regrets that the loss of fat has brought out the wrinkles in her face. (7). Ten days before stopping the thyroid, her hair began to fall out and the loss was considerable and constant for a month. (8). Following the loss of

the hair, it was noticed that the finger-nails were rough and uneven, suggesting a sclerodermic condition.

COMMENTARY.

The importance of considering the neuropathic tendency of the individual as a factor in the existence and production of Graves's disease is well illustrated by the first case of exophthalmic goiter. This case especially shows the rise and fall of the active goiter symptoms with the accompanying nervous phenomena.

The idea is conveyed by most writers on this subject, since Möbins stated his theory in 1886, that these nervous symptoms are a consequence of the abnormal activity of the thyroid gland. While this view is fully accepted, as far as it goes, it is possible that sufficient consideration has not been paid to the fact urgently set forth by Charcot, and since generally recognized, but not fully appreciated, I believe, that Graves's disease, well-defined, exists almost exclusively in neurotic individuals. Further, and this is the point I wish to emphasize, this disease usually develops at a time of nervous instability, or when the patient is in a depreciated condition characterized by a lack of nerve tone and manifested by nervous symptoms, mild or severe, as the case may be. If this is a fact, that the patient is in a distinctly nervous state previous to and at the time when the first symptoms of the abnormal activity of the thyroid gland appear, then this state, it is fair to assume, must be a predisposing factor of special significance.

There is no doubt that the thyroid gland once stimulated, and set in active operation, can, by over-secretion, or altered secretion, or both, affect the nervous tissues directly, or indirectly, and so increase and perpetuate the nervous phenomena, but the problem is deeper than this and the real question is, how is the gland excited to this abnormal activity? The answer to this question involves a broader conception of the origin and development of Graves's disease than that entertained by the thyroid

theory. Indeed, this latter theory is included and forms only a part in the larger interpretation of the nature of the disorder. Without further speculation at this time, it may be simply stated that great importance has been attached to the study of the fundamental nervous organization of the individual and the writer has been impressed with the advantage of viewing this disorder as one that is intimately associated with a very general, systemic condition of nervous weakness and instability and that this condition, rather than the symptom-complex itself, should be the chief object of treatment.

Attention is called to the following points in evidence:

1. Speaking very generally and within limitations, certain active symptoms of Graves's disease are an intercurrent event in the life of a neuropathic individual. The goiter with its attendant symptoms, represents an acute nervous manifestation comparable to some of the more distinct and localized forms of hysteric and neurasthenic disturbance.

2. The psychological element is of great importance in explaining the development of the symptom-complex. The objective feature of the affection attracts the attention, and apparently every sign points to the swelling gland as the seat and cause of all the symptoms. The patient's thoughts and the physician's efforts are focused on the goiter, and the result has been to magnify this symptom and really to favor the full growth of the disorder. There is no question of the prominence of this psychological factor in the class of cases represented by Case I. The effect upon this case through the medium of hypnotic suggestion is most interesting evidence in support of this view. In this instance the patient was very suggestible, and actual hypnotic sleep was not induced. The most palpable effect of the seances was a complete allaying of nervous irritability and anxiety and the production of calm and the confidence of recovery.

3. When the disease is established and there occurs an exacerbation of the symptoms, I believe that careful

inquiry would show, as in Case I, that an increased nervous condition, or at least a state of health below par, previously existed.

4. The advantage and importance of considering the goiter as in part a symptom, rather than the pure and direct cause of the disorder, is best appreciated from a therapeutic standpoint, to wit: If we do not attempt to treat the goiter directly, thereby making this the center of attraction, but turn our attention wholly to improving the general nervous condition, by rest and hygienic measures, we will accomplish more than in any other way. Not only will the acute symptoms subside, but also, if the patient can be kept in a fairly stable nervous condition, no further exacerbation will occur. The chief difficulty with this very simple but rational method of procedure has been already stated, viz., that both physician and patient have been in the habit of considering the goiter the paramount object of interest, and it is not easy to convince the patient that this enlargement is of secondary importance to the general systemic condition.

Reviewing the early history of these three cases of goiter, we find that the neuropathic tendency which was conspicuously present in the two exophthalmic cases, is absent in the third, or simple goiter, case. It has been suggested that the presence or absence of the nervous element must play an important part in the kind of goiter developed, but it is by no means clear how this element or factor operates. In the first case, the thyroid enlargement was the most prominent feature in the life of the patient for many years, and it developed into a tumor, richly vascular. In the second case, the goiter appeared secondary to the exophthalmus, and was always of less importance in the mind of the patient. It is distinctly vascular, but only the right lobe is enlarged, and that to a slight degree. In the third case, that of the simple goiter, there is the least neuropathic tendency, and we have, as is generally the rule under such conditions, parenchymatous thyroid enlargement.

The act of coughing as an etiological factor in the production of goiter seems to me deserving of more attention than it has yet received. The history of all three cases in the early, as well as in the latest stages of the affection, demonstrates the distinct and rapid increase in the goiter following severe coughing.

In considering this factor however, we must not emphasize unduly its importance. In the second case, with a throat badly choked up, a chronic catarrh, and more or less constant tendency to cough, we find the smallest sized goiter. Nevertheless, this, as well as the other two goiters, will measurably increase in size after a fit of coughing. Indeed, no one can witness a person continue coughing without noting the state of congestion which follows the act (throughout the tissues of the neck).^{*} On this account, if severe coughing occurs in a neuropathic individual, especially in early life, and when the general health is depreciated, the possibility of goiter should be thought of and an attempt made to relieve the cough. It is not desirable to attach too much significance to such a common symptom as coughing, but under the conditions named, I think we are bound to take heed and not to consider it of no consequence.

THE EFFECT OF THYROID FEEDING.

The results are summarized as follows:

Case I. Apparently this case has been benefited by the administration. I do not consider the benefit as anything more than temporary or transient. Provided the patient did not become nervous as the result of overwork, or business anxiety, I believe his condition would be as well as it has been under the thyroid treatment. He considers his head has been clearer, and that he could think better this past year, and he attributes this improvement to the use of the medicine. I think this is undoubtedly true, inasmuch as in this case the thyroid treatment increases the arterial tension, as well as reduces the pulse

^{*} Guyon. "Hyperthrophie subite du corps thyroïd." Arch. de Physiologie, 1870, III, 167.

rate, and there is actually a diminution of the chronic state of arterial congestion. On three different occasions the goiter has slightly enlarged, but at each time, a few days' thyroid treatment would reduce the size of the tumor and slacken the pulse to a normal rate. This effect is very distinct, and very satisfactory, and thus far no injurious result has been noted. Beyond the comfort and satisfaction it is to the patient to know that he has a remedy that will reduce his neck and pulse, I believe no special good has been accomplished by the thyroid administration. I would claim, that the elimination of mental worry, and hygienic measures, would yield the same general result. The size of the goiter when contracted and quiescent has not been reduced by the thyroid feeding.

Case II. The results obtained were unfavorable as regards constitutional effects. The patient and her friends, however, thought the goiter and the exophthalmus were slightly improved. The neck measurements did show a small reduction in the size of the tumor. The treatment of this case was very unsatisfactory, as she could not be trusted to follow directions.

Case III. The neck measurement in this case was reduced over two inches and then remained stationary. Later, after the thyroid feeding had been omitted, and under strain, the goiter returned to its former size. A second attempt, of four months duration, to lessen the size of the tumor has resulted in reducing the size of the neck circumference nearly four inches, thus causing a marked improvement in the patient's appearance. The general health has not been disturbed and no injurious effect has yet been noticed from the administration of the remedy. Mentally the patient has appeared brighter and better since he has been under the thyroid treatment. As in Case I the effect of the medicine in reducing the pulse-rate and increasing the arterial tension, thereby diminishing the arterial congestion is the most probable explanation of this.

Case IV. While the result in this case is excellent,

and no unfavorable symptom has thus far appeared, nevertheless, I should never advocate the use of thyroid extract as a fat-reducing agent. It is too powerful, and we know too little of its physiological effects, near and remote. The patient went through the reduction of fifty-three pounds, in four and a half months, with comparative ease, and did not miss one day from her work, and the result, as far as she herself has been able to ascertain, is entirely satisfactory. The two most striking features of the thyroid administration were the partial falling out of hair, and the disappearance of the fatty tumor.

In comparing the effects of the thyroid extract upon the circulation in these different cases, the following points are to be noted, as possibly affecting the results obtained:

1. In the two exophthalmic cases, note the difference in the duration and stage of development of the goiter. In Case I, the acute stage is passed and the symptoms are no longer active. In Case II, the symptoms are still active, and the patient has not entered a secondary quiescent condition.

2. Between these two cases also, we have a wide difference in the state and quality of the blood. Case I has good, red blood, whereas Case II has blood of an anemic character.

3. In both Cases III and IV, we have good blood, but in the perfectly healthy individual the pulse-rate is increased by the thyroid, and the case of the parenchymatous goiter, it is lessened.

The connection or relation of the thyroid to the other glands of the body it is important to note, and especially in regard to the glandular appendages of the sexual organs. A study of the prognosis as to procreative power in goiterous individuals has not merited the special attention it should. The testimony of the three cases, as far as it goes, seems unfavorable to the rearing of offspring. Case I has been married five years, had one child

with a serious circulatory disease and it soon died. Case II, married five years, one child weighing four pounds at full term birth, died of inanition. Case III, married fifteen years, no children.

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THE PARASITIC ORIGIN OF CARCINOMA.

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The factor or factors at work in causing this disease, have always been the subject of investigation, and though we are told by numerous wise-heads and old women, that the excessive eating of tomatoes is the chief and only cause, and by eminent observers, that psorozoa, coccidia, and yeast fungi are the guilty ones, the question is still far from settled.

It is the purpose of this paper to briefly review the most important investigations upon the parasitic origin of this disease and also to report the results obtained by the writer from some examinations made by him along this line.

Within the past eight years much interest has been aroused in the study of the occurrence within epithelial cells of psorozoa or coccidia; in some of the lower animals, especially certain fish and rabbits, such bodies have been found, and also in the human subject under certain conditions.

In 1887, Schenerlen* published his observations in which he described a bacillus which he found in mammary cancer. The bacilli were slender rods, from fifteen to two micromillimeters in length, and there were also present oval bodies, greenish in color, which he conceived to be spores. He never found them present in sections of the tumor but in the cancer juice. He succeeded in cultivating the bacilli upon potato, agar-agar, and meat peptone. He injected culture media containing the bacillus into animals and found that nodules were formed at the point of injection, and that the bacilli could be obtained from such nodules.

*Deutsch. Medical Wochenschrift, 1887, No. 48.

Sanarelli and Pfeiffer confirmed his observations so far as demonstrating the presence of these organisms in cancerous material but their inoculations proved failures and they regard the organism as a harmless parasite, in fact, hardly any one, at the present time believes the organisms described by Schenerlen to be the etiological factor in the production of carcinoma.

As long ago as 1858, Gubler reported a case, where, in a man of forty-five, the liver contained tumors, varying in size from a small nut up to an egg, and which when opened, were found to contain fluid, in which were multitudes of the coccidia.

In 1883, Dr. Hadden, before the London Pathological Society, showed portions of the viscera from a case resembling the one just quoted, in which the muscular tissue of the heart, parietal layers of the pleurae and omentum, the liver, kidneys and brain, contained small nodules which were found to be psorospermial cysts.

Several such cases have since then been exhibited before that Society. These psorospermial bodies have also been found to occur in the skin; Darrier, in 1889, found them present in chronic eczema of the nipple, or Paget's disease, and his observations were confirmed in 1890, by Wickham¹ and J. Hutchinson, Jr.² These investigators claim that this disease is caused by these organisms, and as it usually ends in cancer of the breast, it is but natural to suspect that they may have something to do with the causation of that disease.

Away back in 1847, Virchow described certain inclusions which he found within the cells of tumors, and it is thought by many that they were the bodies which are now described as psoroza or coccidia, but it was not until 1888-89 that they began to be seriously considered as perhaps bearing some causative relation to cancer. In the latter year Melassez and Albarran published some important observations upon this subject, in which they came

1. Archiv. Exper. Med., Jan. 1890.

2. Trans. Path. Soc., Vol. XLI, page 214.

to the conclusion that carcinoma was caused by psorozoa, and Darrier, Wickham, Wright and Russell came to the same conclusion from their own investigations.

Ruffer and Walker³, in 1892, published their very important observations upon the etiology of carcinoma and the claims which they made have since received confirmation from Burchardt, Plimmer, Foa, Soudakewitch and Steinhaus.

All of these investigators agree that a peculiar body is almost always present in some of the cells of all of the varieties of carcinoma, generally within the body of the cell, sometimes alone, sometimes multiple, oval or nearly round in shape, from two to ten micromillimeters in diameter, and enclosed by a capsule. They are sometimes described as containing a nucleus, and according to Ruffer, reproduction takes place by division of the nucleus and then of the capsule. Spores have not as yet been demonstrated, although Burchardt⁴ has described an appearance which he takes to be a spore; it consisted of a delicate oval capsule, containing a well-defined vesicle, which was filled with small particles, comprising, he thinks, a spore, germ capsule, and germs. The organisms are not very resistant, and Ruffer and Walker claim to have seen them destroyed by attacking leucocytes. According to Royce, the cancer cells in the neighborhood of these bodies do not seem to be more active than elsewhere but the bodies themselves are found in greatest number in the more rapidly growing tumors.

It may be well, just here, to sum up the chief arguments both for and against the parasitic nature of these bodies.

The chief arguments for their parasitic nature are:

1. The body seems to be a foreign substance.
2. It looks like an organized structure.
3. Zoölogists, like Metschnikoff and Balbiani, have decided that it is a parasite.
4. It stains unlike the normal cell products.

3. Jour. Path. and Bacter., Oct., 1892.

4. Virchow's Archiv. Band, 131, page 121, Jan. 2, 1893.

5. Germination has been claimed to have been observed.

Those against its parasitic nature are:

1. It does not resemble in general characteristics the protozoa with which it could best be classed.
2. Spores have not as yet been demonstrated.
3. Cultivation has not been successful.

Galloway⁵ thus sums up the various appearances with which the organism has been confounded, and to which those opposed to its parasitic nature refer all the bodies described: Transverse sections through two cells, one of which is invaginated into the other; leucocytes or red blood-corpuscles enclosed in epithelial cells; cell formations, in which the nucleus has divided but not the cell; degenerations of the cancer-cells, particularly if the nucleus is not affected.

Observers have described bodies which were undoubtedly some of the appearances described: Korotneff, Jackson Clark, Wickham, Russell and others have, no doubt, mistaken such appearances for parasites, but that there is a body present in cancer which is parasitic in nature, the majority of investigators firmly believe. Foa, at the International Medical Congress, held in Rome in 1894, read a paper in which he described the bodies which he thinks are the cause of cancer. They are endoprotoplasmatic bodies having a nucleus and enclosed by a capsule with a double outline, composed of protoplasm. In size they vary from a small to a large nucleus. When the body is large the protoplasm is festooned upon the surface, being cockade shaped or regularly segmented, looking like a rosette. They increase by the central body or nucleus dividing into a number of smaller bodies, which fill the cyst like cells. He thinks these bodies are spores. Owing to the number of them in a single cell they could hardly be mistaken for degenerated nuclei. He believes these organisms, which are the same as those described

5. Schenck's Bacteriology, page 292.

by Ruffer, Plimner, Soudakewitch and Walker, are the cause of cancer.

Plimner and Ruffer have shown that these bodies are present in fresh cancer cells, so that they cannot be produced by changes occurring in the cells during the process of hardening. Plimner found them present in every case of cancer which he examined (four hundred consecutive cases) and never found them in any other variety of tumor.

Shattuck,^b in the Morton Lecture, said that the only bodies so far described which seemed to him to be at all suggestive of parasites, were those of Ruffer, Plimner and Foa, and described his method of cultivating on sand, growths from the margins of a mammary cancer; in five out of six cultivations he obtained actively moving amoebae, in some of which a process of encapsulation and sporulation was going on.

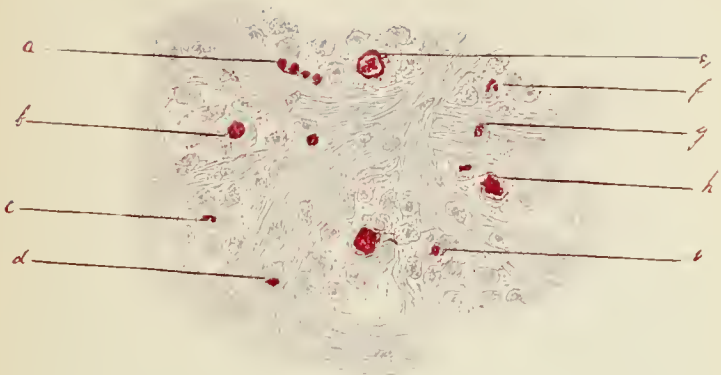
D'Arcy Powers placed in the irritated mucous membrane of a rat a piece of cancer, and succeeded in obtaining from the cells so affected, bodies which were identical with those described by Ruffer, Plimner and Foa.

Cornil does not agree with their conclusions, but holds that the bodies believed by them to be parasites were nuclei which had been disintegrated, and Adler, in an article in the American Journal of Medical Sciences for January, 1894, states that in examinations of more than sixty cancers, taken from various parts of the body, he did not find in one of them anything but which could be easily explained away, without falling back upon the parasitic theory, but the claim made by Ruffer, that the parasite described by himself and the other investigators named, gives distinct staining reactions differing entirely from those given by carcinomatous nuclei is true, and goes far to prove the correctness of their theory. . .

My own work on this subject is very limited, and done merely to see if I could find the appearances described. I have examined several sections prepared in the manner

6. British Medical Journal, May 19, 1894.

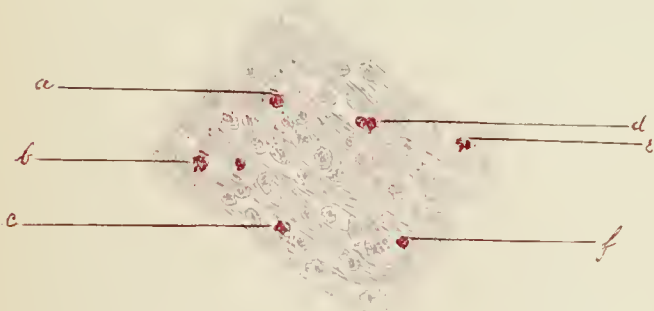
Fig. I.



SCIRRHOUS CANCER OF THE BREAST, (X 450.)

- a.* Fuchsin stained bodies, without epithelial cells.
- b, d, i.* Fuchsin stained body with the epithelial cells, capsulated.
- c.* Small stained organisms within the epithelial cell.
- e.* Rosette-shaped body, within large cell, enclosed in a capsule.
- f.* Group of three small bodies within epithelial cell.
- g.* Deeply stained organism, pushing nucleus to one side of cell.
- h, j.* Large fuchsin stained bodies, enclosed within a hyaline capsule within epithelial cells.

Fig. II.



SCIRRHOUS CANCER OF THE BREAST, (X 450.)

- a.* Fuchsin stained body within cancer cell.
- b, d, f.* Small bodies without the cells, of doubtful nature.
- c.* Fuchsin stained body, enclosed in capsule, in cell.
- e.* Groupe of three psorospermae within epithelial cell.

Fig. III.



VARIOUS FORMS OF PARASITIC BODIES FOUND IN CANCER.

1. Large rosette-shaped body, enclosed in a well-defined capsule, and pushing the nucleus of the epithelial cell to one side.
 2. Smaller body, lying within epithelial cell.
 3. Large body, contained within a hyaline capsule, within epithelial cell.
 4. Large body, engaged in pushing the nucleus of the cancer cell to one side.
 5. Two small bodies, psorospermae or coccidia within epithelial cell.
 6. Two small bodies enclosed in a well-defined capsule, within cancer cell.
 7. Group of three coccidia within epithelial cell.
 8. Large stained body, within cell.
 9. Small stained bodies which lie without the cancer cells, free in the fibrous portion of the tumor. Their nature has not yet been determined, probably blood corpuscles.
- All the above are stained with fuchsin.

recommended by Ruffer, Plimmer and Soudakewitch, from two carcinoma of the breast, and in all of them detected bodies which answer to those described by the observers mentioned.

The method which gave the most satisfactory results in my work was as follows: The section was stained for ten minutes in a saturated fuchsin solution, made by dissolving in two per cent. carbolic acid water, then washed in water and alcohol, and stained for five minutes in methyl blue. The section so stained show the parasites a dark red color while the remainder of the tissue is blue. In the method used by Soudakewitch the sections are stained by hematoxylin, which gives these bodies a different blue color from the rest of the tissue. The bodies which I have been able to demonstrate by these methods are the same, as I stated, as those described by Ruffer, Plimmer and Foa, and in my sections I noticed the following varieties:

1. A large, rosette shaped body, enclosed within a well-defined capsule, and occupying nearly the whole of the cell, pushing the nucleus to one side.

2. Smaller bodies, oval in shape, lying within the epithelial cells.

3. Large bodies, round or irregular in shape, enclosed within a capsule, lying within the cancer-cells.

4. Large, oval bodies, enclosed in a capsule, pushing the nucleus to one side.

5. Groups of two or three small coccidia enclosed in a common capsule round in shape, and situated within the cancer-cells.

6. Small round bodies, generally two in number, enclosed in a common capsule, which is well-defined, and stained at its outer border.

7. Small round bodies, deeply stained, which lie in the intercellular spaces, outside of the epithelial cells, and which are probably blood-corpuscles.

I have made drawings from two sections of these tumors, just as they appeared beneath the microscope, and

also a drawing showing the different forms which I noticed, which may be of interest to you.

The difference in appearance of these organisms is due, probably, to changes in their life history and though I cannot say that I am convinced that they are the cause of cancer, their constant presence, their staining reactions, general appearance, differing so markedly from the cancer-cell nuclei, and the fact that they have been proven to have caused proliferative changes in the tissues of some of the lower animals, leads me to suspect that these psorozoa or coccidia have something to do with its causation.

Dr. Ruffer has recently claimed to have seen movements in these organisms and hopes to be able soon to photograph them. He says that if daily examinations be made of a recently removed cancer, one could follow all the stages of degeneration of these parasites, and also certain phases of their life history.

This paper would be incomplete were I to omit in closing, mention of the recent researches of Neumayer, Raum, Sanfelice, Roncali and Rabinowitch, upon the causation of tumors by the yeast-plant.

Neumayer found that the yeast-cells were very resistant to the human digestive juices and Raum produced death in rabbits with intravascular injections of pure cultures of various yeast-plants.

Busse, in 1894, isolated a species of yeast from a sarcoma from the tibia of a woman, and produced death in rabbits by injecting pure cultures, although no tumors were found.

Sanfelice has produced neoplasms, especially in guinea-pigs, by injections of pure cultures of a pathogenic variety of yeast and he calls attention to the resemblance of the yeast-cells to the cancer parasites thus far described.

Roncali has published a paper in which he describes certain bodies in cancer-cells which he insists are yeast-like in character.

Lydia Rabinowitch, under the direction of Koch, made

inoculation experiments with fifty different varieties of yeast organisms, out of which she found only seven which were pathogenic, the yeast-cells being found abundantly in all of the organs of the infected animals, but in none of them was there produced any chronic illness or neoplasms.

Such, then, is the condition of the question of the parasitic origin of carcinoma at the present time.

THE ABUSE OF HYPNOTICS.*

WM. G. DAGGETT, B.A., M.D.

NEW HAVEN.

It may be stated as a general principle that a powerful drug is by its very power especially liable to abuse. The abuse of an indifferent drug may escape notice because of its innocence for harm, but the abuse of a remedy which is potent must sooner or later be detected. A drug may be abused in one of three ways: (1.) by its use in too large doses; (2.) by its too frequent use, and (3.) by its use when it should not be employed. Such abuse may arise from ignorance, indifference or negligence. Where physicians are concerned ignorance is not a valid plea, for it is the duty of physicians to know all about the weapons they use, and ignorance is in the highest degree culpable. Indifference or negligence are harsh charges to make against a medical practitioner, but to them he must in many instances plead guilty. Where the laity are concerned ignorance or wilfulness is commonly responsible.

Hypnotics are among the most powerful agents for good and for evil which we possess, and their use is directed against one of the most troublesome and obstinate of symptoms. Insomnia is justly dreaded, adding as it does to the existing distress of patients ill with acute disease, aggravating the already deplorable condition of chronic sufferers, and taxing the strength and even threatening the lives of many who seem to suffer from no other disability. It arises from many and diverse causes, chief among the following:¹

* Read before the New Haven County Medical Association, October 17, 1895.

1. The passions, especially worry, anxiety and grief.
2. Pain.
3. Febrile disorders.
4. Neurasthenia.
5. Certain insanities.
6. Certain organic diseases of the cerebrum.
7. Certain food and drug substances.

The demand for relief is imperative, and, fortunately for us and for our patients, our resources for meeting that demand are much greater than they were only a few years ago. We formerly relied mainly upon opium and its derivatives, chloral, and the bromides, and these are still among our most used drugs, but the last few years have witnessed the addition of several new remedies which have proved more or less efficient and safe hypnotics. These are amylene hydrate, chloralamide, hyoscine, paraldehyde, sulphonal, trional, tetronal and urethan. We are long familiar with cases which illustrate the abuse of the older drugs. The morphine habitué is most familiar, with his mental, moral and physical decadence plainly stamped upon him, his increasing years only adding to his misery, and his final taking away very often the result of his own criminal act. Living an unwilling slave to his drug, hated by himself, and pitied by his fellows, and dying almost unlamented, the victim of the morphine habit presents a vivid picture of human wretchedness. The habitual user of the bromides experiences the effects of chronic bromism, and, by loss of memory, mental hebetude, and physical lassitude, unfits himself for most forms of useful activity. Happily the bromides do not, as does morphine, invite a habit, and the consequences of their use are often accepted in lieu of that distressing convulsive affection for which they offer a certain degree of palliation. The use of chloral, like that of morphine, often becomes habitual. In chronic poisoning the patient suffers from weakness, mental and physical, from sudden flushings due to vasomotor disorder, palpitation of the heart, petechial eruptions, ulcerations and sloughs.

We are not so conversant with the untoward effects of the newer hypnotics as with those of the old, so that it may not be amiss to detail some of the unpleasant and dangerous effects of their misuse.

Amylene hydrate may² in large doses produce a very deep narcosis, accompanied with general muscular paralysis, loss of reflexes, dilated pupils, a small slow pulse, an irregular, slow and deep respiration, and diminished bodily temperature. Several cases of poisoning by its use have been reported by Dietz.³

Chloralamide has as yet no deaths to its credit. Its hypnotic action⁴ on the cerebral cortex is unaccompanied by any pronounced effect on the circulation or on the spinal cord. In poisonous doses it has caused great excitement and loquacity; in another case giddiness, staggering, occipital headache and nausea. Fürbinger⁵ and Langgard⁶ advise its cautious use because of the marked circulatory depression caused by it, but this opinion as to its effect on the circulation is not generally endorsed.

Hyoscine is also without deaths to its credit, and yet in many cases it produces alarming effects. The hypodermic use of one and seventy-five hundredths grain of the hydrobromate⁷ has been followed by dryness of the mouth and throat, inability to swallow, thick speech, paralysis of the soft palate and upper lip, dilated pupils, muscular incoördination, clonic convulsions of the arms and legs, slow and full pulse and flushed skin. In thirty minutes after the administration there ensued a profound stupor which lasted for six hours. A dose of one and fifty-hundredths grain hypodermically⁸ produced wild and acute delirium, loquacity and hallucinations, dryness of the throat and tongue, and great sensitiveness to pain and external irritation, this condition lasting for five hours. One one-hundredth grain hypodermically⁹ was followed in ten minutes by faintness and dryness of the throat, and later, widely dilated pupils, weak and rapid pulse and cold and clammy skin. Cerna states that it should not be given in scarlatina, cardiac disease and asthma.

Paraldehyde depresses the respiratory center and should not be administered when the respiration is already embarrassed. In a case of advanced emphysema with some cyanosis a dose of one dram caused collapse.¹⁰ The accidental exhibition of a dose of about six drams to a typhoid fever patient caused death.¹¹

Sulphonal, trional and tetronal are closely allied chemically and physiologically and what is true of sulphonal may be safely asserted of its congeners. Cases of poisoning by sulphonal are very numerous. In a series of seventy-seven cases of its use reported by Bresslauner¹² the patients were insane and apparently feeble. Seven showed serious symptoms and five terminated fatally. The patients had been taking the drug for a considerable time and in good doses and had borne it well until symptoms of poisoning set in, these being great constipation, dark brown urine, slow or, in some cases, rapid but feeble pulse, discolored patches resembling purpura on the skin and great prostration. In the fatal cases the cause of death was heart-failure with edema of the lungs. In a case reported by Dr. F. H. Dillingham¹³ an elderly lady took ninety grains at nine p.m. At three a.m. she was in a semi-comatose condition, her respiration was stertorous, the pulse almost imperceptible and the extremities cold. Her condition soon improved and the pulse became slower and stronger: incoördination of all the muscles was extremely well marked. Her face was drawn slightly to the right side and there was ptosis of the right eyelid; the pupils were normal. At six a.m. her articulation was very poor, her mouth was parched, the tongue dry and deviating to the right on protrusion. There was vesical tenesmus with normal urine. Her temperature was normal. After thirty-six hours she was weaker and her mind was not clear; the muscular incoördination had diminished and there was paralysis of the sphincter ani. It was ten days before the ptosis, muscular incoördination, paralysis of the face, etc., entirely disappeared. The paralysis of the bladder and bowels continued for

two weeks. Sulphonal is often slow in action, the drowsiness not being felt until the next day. It should not be given in cardiac disease. A summary of its unpleasant effects is as follows: Headache, tinnitus aurium, weakness, mental torpor, constipation, vomiting, ataxic nervous symptoms, palpitation, swelling of the joints, pains in the lower extremities, a rubeolar exanthem, difficulty of speech, edema of the eyelids, ptosis, cyanosis, tonic and clonic spasms, exhaustion and death.

Urethan is a safe hypnotic, one of the least harmful. We find no record of death from its use. A fatal dose given to animals causes¹⁴ failure of the heart and respiration with a fall of bodily temperature and death from asphyxia. Its action on the circulation is less pronounced than that of chloral. A medicinal dose does not affect the arterial pressure.

This brief review shows that the newer hypnotics are less dangerous than morphine and chloral, and that they do not invite drug habits. Most of them have no cumulative effect and large doses are generally recovered from. Hyoscine is dangerous because of its uncertain action, and sulphonal must be used with caution from the fact that when the first definite sign of its overuse, the brownish discoloration of the urine, appears, it may be too late to avert serious consequences.

Our use of hypnotics should be conservative at all times. They are properly employed only as adjuvants to other treatment appropriate to the underlying conditions of which insomnia is a symptom. In acute cases they should be closely watched from day to day, and withdrawn at the earliest possible moment. In chronic cases they should be prescribed only after the failure of simpler non-medicinal measures, and then should be varied from time to time either by an entire change of the drug or by combining it with some other agent.

The non-medicinal measures for securing sleep are often lost sight of because of the ease with which drugs can be administered. Careful adjustment of such hy-

gienic conditions as will secure to the patient the greatest degree of personal comfort, a proper temperature of the room, a comfortable bed, quiet within and without, a sponge bath at bed-time, perhaps a light and easily digestible meal before retiring, massage; these and other minute details which may suggest themselves as tending to promote mental and physical repose, should all receive the attention of the physician. They are not too trifling for our notice and may render the use of drugs unnecessary. In any event let us be sparing in our use of morphine. It is the quickest and surest of hypnotics as well as the most dangerous. In the last stages of carcinoma or tuberculosis or of any other disease which is necessarily fatal, we are justified in using opium freely, and not to do so is often censurable. But it is far more censurable to administer it freely to hysterical or neurasthenic patients or to others from whose disorder recovery may be anticipated. It is sometimes necessary in the exigencies of practice, especially in rural districts, to give morphine to patients with instructions as to its use, and to leave its use to their discretion, but it is very culpable to give it to them in this way unless the circumstances are peculiar. Physicians have been known to give hypodermic syringes to patients suffering from hysteria and to permit discretionary use of them; comment upon such gross malpractice is needless. We may unwittingly foster the formation of a drug habit and this should always be in mind, but we must not ourselves believe or allow others to believe, as so many do, that physicians are primarily responsible for the unfortunate practices of most of the morphine, or other drug, habitués. The truth is that there are in every community many individuals whose power of inhibition is weak, and who, in spite of the strictest precautions, will at first opportunity fall into baneful habits. These must suffer the consequences of their weakness, and must continue to crowd health-resorts and institutions of various kinds in search of will power and common sense. They have a claim

upon us which we must respect, but the blame for their downfall must not be laid at the door of the medical profession, nor credited to the allurements of the particular drug which chanced to come to hand, so much as to their own inherent weakness and lack of power of resistance.

Secrecy on the part of the physician as to the kind of drug used is at times useful as a preventive measure, and deception in this respect is often justifiable. Our responsibility does not end with the giving of the prescription, but we should take precautions to see that powerful drugs are not used for an undue length of time. We have the full knowledge and experience which our patients lack. We are looked upon as authorities in the use and abuse of drugs, and we are looked to for advice which, while relieving a present ailment, will not precipitate another far worse than the first. Our plain duty is unperformed if we do not use every possible precaution against the insidious but terrible results of the misuse of powerful remedial agents.

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A PROPOSED HOME FOR INCURABLE CHILDREN.

THEODORE G. WRIGHT, M.D.,

PLAINVILLE.

The fact that philanthropic people have for years agitated the question of a home for incurable children in this State, that years ago an estimate was made of the number of persons in Connecticut who were in need of such an institution, that, following such an investigation as was made to ascertain the necessities of this unfortunate class of our fellow-citizens, the State Board of Charities in its annual report for the year 1890 brought the matter to the notice of the members of the State Legislature and sought to impress upon them the urgent need of such an institution, that benevolent persons have contributed several thousand dollars and indicated intentions to do much more for the establishment and maintenance of a Home for Incurables, that such a Home has been established and disestablished and its maintenance prohibited in pursuance of an enactment of the Legislature of 1895, and that three towns have by their votes prohibited the establishment and maintenance of an asylum, home, or institution for defective, deformed and incurable children, is my apology, if apology is necessary, for presenting at this time to the members of this Society,* what I wish to say upon the subject of this paper.

My attention was first directed to this subject about six years ago when I listened to statements made in a public address by a member of the State Board of Charities, and since that time I have in my own very limited field of observation witnessed confirmations of the truth of the statements made in the address above mentioned. In the small town where I have lived for eighteen years, a town which has a population of less than two thousand, I can point to at least six persons, proper subjects for a

* Read before the Hartford County Medical Association.

home for incurables, who would not be admitted to any existing institution in this State, and if the number of such cases in the other towns is in the same proportion to the population, the aggregate for the State would be important. I understand that an effort was made several years ago to ascertain the number of persons in the State, classed as incurable who were in need of the care of a suitable institution and for whom no place was provided. From such information as could be obtained at that time an estimate was made which included both adults and children and a very moderate opinion was given that there were more than a hundred children who should be cared for in a home for defective, deformed and incurable persons.

It is unlawful to place or retain children between the ages of two and sixteen years in any almshouse in Connecticut. "Each county in the State has a Temporary Home where healthy, dependent children may be cared for until they can be placed in suitable private homes, and there is an institution at Lakeville for imbecile children. Hospitals will receive sick and disabled children from the Temporary Homes and from homes where they cannot receive proper care and will treat curable and contagious diseases of every form, but hospitals will not and cannot receive and care for incurable cases and they do not profess to do it; therefore, there is among us a class of children more helpless than any other, unless it be the imbecile, for whom no provision has been made.

"The other New England States, as also New York and Pennsylvania, long since established such homes and are able to testify to their importance in the classified and systematic care of childhood and even adult life. In the past twelve years children have been sent from Connecticut to the Home for Incurables in New York."

There is need of a place for adults as well as for children, who have incurable ailments, and it is proposed to include in the plan for this institution a department for adults who cannot be cared for in any institutions now existing.

About the first of September, 1895, a man whom I have known for nearly twenty years as a resident of our town and a sufferer from chronic rheumatic arthritis, resulting in great deformity, inquired if I knew of a place for incurables in New Haven and said he was informed by another physician about a year ago that there was such a place and the doctor said he ought to go there and that he would be made very comfortable if he did so. The doctor offered to help him to obtain admission, but as he was situated at that time he did not wish to leave his home. Since then his circumstances had changed and he was now suffering greatly for lack of the ordinary comforts of a home and would be very glad to go anywhere where he could be more comfortable. I was not able to give any definite information but promised to investigate, and at the request of the Selectmen I immediately wrote to the Superintendent of the New Haven Hospital for information, stating the circumstances of the applicant. In reply to my letter, after some delay, the Superintendent wrote that my statement and application had received the attention of the proper committee at their usual weekly meeting and the committee had decided that this applicant could not receive benefit from the funds provided for the "Gifford Home for Incurables" because this fund is used not for the support of those who are merely helpless but for such incurable cases as require medical treatment and nursing.

After receiving this information from the Superintendent in reply to my letter and communicating it to the applicant, he asked the Selectmen to send him to the Hartford Hospital and at the request of the Selectmen I applied for his admission to that institution. In answer to this application I was told that the man could not be received there because the Hartford Hospital was filled with cases of acute diseases and surgical cases, there being at that time twenty-eight cases of typhoid fever in the hospital, and more urgent cases must have the preference; consequently, this man endured the privations, discom-

forts and suffering of a miserable apology for a home until extreme cold weather came on and then destitution, exposure, lack of proper shelter, clothing, food and care, brought him into a condition in which he was a proper subject for the Hartford Hospital and he was taken there by the Selectmen, admitted, and he has not since been able to leave his bed. This case is mentioned to show the need of a department in the proposed home for children, for adults belonging to the class of incurables. inmates of the children's home outliving childhood would need the provisions of a department for adults.

"The Gifford Home for Incurables" is the bequest of the late Mrs. Ellen M. Gifford and was opened in 1892 for the support and care of incurable patients needing medical treatment. It is not a home for old people, or those disabled by the infirmities of age, nor for incurable cases not requiring medical treatment and nursing. The "Home" is under the general management and administration of the General Hospital Society of Connecticut and is conducted as an integral part of the hospital at New Haven, its wards being visited daily by the medical staff, and supplied with trained nurses like other parts of the hospital. Self-paying patients are received at seven dollars per week. Admission for those wishing to be supported by the Gifford funds is obtained through the Prudential Committee who act upon all applications. At present (April 9, 1896,) the funds are fully occupied. The last annual report of the General Hospital Society, January 30, 1896, gives a schedule of securities of the Ellen M. Gifford Fund amounting to \$202,600.00, the Legatee Fund being \$42,800.00 and the Executor Fund \$159,800.00.

Under the auspices of the Connecticut Children's Aid Society a movement has been made to establish and maintain a Home for Incurable Children. The President of this Society is Professor John T. Huntington of Hartford, the first Vice-President is George L. Chase, Esq., of Hartford, the second Vice-President is Hon. E. Stevens Henry of Rockville, the third Vice-President, Hon. H. Sidney

Hayden of Windsor, the Treasurer, Professor Theodore S. Woolsey of New Haven, and the Secretary, Miss Madeline Hawley of Hartford. The Chairman of the Committee on the Home for Incenrables is Dr. Francis Bacon of New Haven.

In the last annual report of the Connecticut Children's Aid Society, November 20, 1895, Mrs. Francis Bacon, who is one of the officers of the Society, gave a report of what had been done for the establishment of a Home for Incurable Children which is as follows:

[From the Report of Mrs. Francis Bacon of New Haven, on Home for Incurable Children, and Graduate Work.]

THE HOME FOR INCURABLE CHILDREN.

It seems proper to state to those who have kindly contributed toward this cause, the present position of affairs.

It is understood that the law prohibits the commitment of disabled children to county institutions, also that hospitals must keep their beds for curable cases, and that consequently for destitute, crippled children the almshouse has been the only shelter. On this account, contributions have been made towards the establishment of a home for this class, and in January, '95, through the generosity of Mrs. J. G. Parsons, of Hartford, a house and grounds in Wethersfield were purchased, put in comfortable order and the first two applicants for shelter were established under the care of a matron and the supervision of this society. The maladies of these children were absolutely non-contagious, and our hope was to brighten as much as possible their saddened lives. We counted upon the sympathy and kindness shown in all other communities where such homes have been established. We unfortunately reckoned without our host. Neighborhood discontent was fanned into town opposition, and in the last moments of the Legislative session, when too late for further resistance, the following bill was hurried through and the Governor's signature immediately secured, July 4th:

"No asylum, home, or institution for defective, deformed or incurable persons shall be established or maintained within the limits of any town, without the consent of the town, unless under express legislative authority."

The Wethersfield house was immediately closed. The great State of Connecticut, by class legislation, shut the door of the only home they had, in the faces of two disabled children. Meantime we are assured that other communities are ready to receive us as soon as the money tied up in the Wethersfield property can be set free; and we are certain that the injustice of this case, as well as the needs of these poor children, will appeal to the true hearted and kind everywhere.

The Home, having been already established in the town of Wethersfield when the above-named Act became operative, a majority of voters, convened for that purpose, decided not to give their consent to the maintenance of the institution in that place and consequently it was closed and the property which had been purchased for the Home was sold. So far as I am informed, the only objection to the establishment of the institution in Wethersfield was that it was to be located in too close proximity to residences centrally located whose owners thought their property would be depreciated in value thereby and it is said no objection would have been made if a less central location had been selected.

After being excluded from Wethersfield the Society was requested to locate the Home in Windsor and it was thought there would be no opposition but to the surprise of many a majority of voters there refused to give their consent.

A third and last attempt has been made to establish the Home in Plainville, a small town fourteen miles west of Hartford, at the junction of the Northampton Division of the New York, New Haven and Hartford, with the New England Railroad and very near the geographical center of the State. A place containing twelve acres of land with valuable buildings away from the center of the town and away from other buildings was selected and an agreement made for securing the property provided the consent of the town was obtained. A petition for a town meeting to be called for this purpose was signed by the present Representative of the town to the State Legisla-

ture, by three ex-Representatives, by our Postmaster, our Town Clerk, Judge of Probate, ten merchants, by leading manufacturers and other prominent business men, and it was generally supposed there would be no opposition to the movement. Pursuant to the call a meeting was held February 10, 1896, and the friends of the institution were unexpectedly defeated by a vote of fifty-five to thirty-two. At a later date another meeting was called at which seventy-seven voted for and ninety-nine against the Home.

The Hartford Times of February 11, published the following item of news:

“Plainville joins hands with Wethersfield against the establishment of a Home for Incurable Children.”

In response to this the following was written but not published:

“Plainville also joins hands with sixty-six other towns in the State of Connecticut which voted last October to license liquor-saloons to be established and maintained within the limits of these towns and the town of Plainville now has twelve places where spirituous and intoxicating liquors are sold in accordance with the vote of the town. These liquor-saloons are located in close proximity to some of the best residences in town, one of them being within less than two hundred feet of a church. Plainville with twelve places where liquors are sold has less than two thousand inhabitants.”

At the town meetings in Plainville the following objections were offered:

1. That there was no need of such an institution. That all needed help would be readily and cheerfully given at any and all times by benevolent neighbors and towns-people.

2. That children committed to such a Home would become chargeable to the town in which the Home was located, as paupers.

3. That the children would be offensive and hideous objects in the public schools and on the streets of the town, to the great and permanent injury of unborn children.

4. That it would be of no benefit to the town pecuniarily to have the institution located here, because all supplies would be purchased at wholesale in the large cities of the State.

5. That the town would lose the amount now received as taxes upon the property, as it would probably be exempted from taxation.

All objections were answered and it became apparent that the opposition was instigated by feelings of personal antagonism to certain individuals who, it was thought, would be benefited pecuniarily by the existence of this institution in this town.

In answer to the first objection it was shown by evidence in this town that persons who are proper subjects for the proposed institution have suffered for the want of such a Home. And in answer to the second objection it was shown that it would be impossible for persons coming to the Home from other towns to become chargeable to the taxpayers of this town.

In reply to the third objection it was shown that for years hideously formed persons had been seen upon the streets of this town, and that it has been no unusual thing to witness attacks of epilepsy on our streets and in our church services and that the keeping of such objects away from the public schools and from public observation was one of the urgent requirements for such an institution.

In reply to the fourth objection and the fifth it was said that while it was not the object of any who were seeking to establish and maintain this institution to derive any personal pecuniary benefit therefrom and while all were doing and giving all from the purest, noblest and best of philanthropic, humanitarian and Christian motives, such an institution could not be established and maintained without greatly benefiting the town in which it is located, in a pecuniary way.

Let us put ourselves in the place of the parent of an unfortunate, deformed, crippled or helpless child. It is well known that parents of such children manifest

greater affection for such afflicted ones than for their able-bodied offspring and that they are dearer than life itself to the hearts of their parents. And what could be more comforting to such a parent than to know that if by misfortune or death they became unable to provide and care for the loved one, a better home and perhaps better care was already prepared for them.

The children at present needing the provisions of the proposed Home are those suffering from hip and spinal disease, paralysis, and epilepsy. As stated in the statutes of the State the Home is designed for defective, deformed and incurable children.

It is suggested that the Children's Law (see Public Acts of 1885, Chapter CXVI, Page 521) be so amended that crippled and incurable children may be sent to the Home for Incurables in the same manner that children are sent or committed to the County Temporary Homes and to the School for Imbeciles at Lakeville.

Funds have been contributed for the Home and there are indications that it would be liberally endowed, as is the Gilbert Home in Winsted, and as are other institutions for the relief of the unfortunate in this and other States. If however all other towns in Connecticut are ready to join hands with Wetherfield, Windsor and Plainville against the establishment of the proposed Home for Incurables, Connecticut will be compelled to continue to send cases of this class to other States to be cared for.

I have recently received annual reports from Homes for Incurables in Massachusetts, Washington, D. C., New York City and Fordham, New York. Connecticut children have been sent to the Hospital for the Relief of the Ruptured and Crippled, corner of Lexington Avenue and Forty-second Street, New York City, which was founded by Dr. James Knight thirty-two years ago, and also to the Home for Incurables, located at Fordham which is in the Twenty-fourth Ward of New York City and is reached by cars of the Harlem Railroad to Fordham, or by the East Side Elevated Railroad to Harlem, connecting with the

Fordham Trolley Road to the Home. This Home was established thirty years ago. All would do well to read its last annual report and especially the addresses by Dr. George A. McGrew, and Dr. E. A. Bradley which are included in the report.

If there is need of this proposed institution in our State, no other men are so competent to know or to ascertain the fact as the members of the Connecticut Medical Society, and if there is no need of such an institution they are the men to know it and to quiet the agitation of this subject. Let there be light! Let the facts be made known and may wise counsels prevail!

HOW SHALL TESTAMENTARY CAPACITY AND CRIMINAL RESPONSIBILITY BE DETER- MINED BY OUR COURTS?

J. FRANCIS CALEF, A.B., M.D.

MIDDLETOWN.

Nothing has caused more unjust criticism of our profession than the seemingly conflicting opinions expressed by able physicians concerning the mental capacity of a testator or a criminal. This seeming conflict is usually made to appear a real conflict by the attorney desiring to influence the jury in that way, which goes out to the world as another disagreement of doctors. For the protection of the public, as well as of our own good name, we must combine and devise ways and means to remedy this evil. I believe I can show that the fault lies more with our legal methods than with the medical profession itself and the only effectual remedy is to have enacted such legislation as shall secure a thoroughly impartial and unhampered study of each case by a board of competent physicians. How are these questions determined in our courts to-day? In its broad sense the court may be said to consist of four distinct bodies, the judge, the attorneys, the jury and the witnesses. The judge is a man selected for his ability to weigh evidence and decide medicolegal questions more accurately than anyone except a physician, but these are not his functions here. He only passes upon the admissibility of evidence and charges the jury concerning the evidence produced. He can not decide a single question of fact. The attorney is a skilled man, paid to impress upon the jury every fact favoring his client, and to befog their minds as to every fact adverse to his client. He must extol the honesty and exaggerate the professional ability of his own wit-

nesses and belittle those of his adversary. Every medical witness has to expect that his testimony will be distorted and misinterpreted to the jury by the opposing counsel, no matter how courteously that gentleman may have treated him while on the witness stand. It is the attorney's business to present his side of the case, not to elicit the whole truth. Next, the jury, twelve "good men and true," selected not for their known ability to decide medicolegal questions, nor yet for their power to sift evidence, but solely because they are available and entirely ignorant of the case which is to be brought before them. They have no professional reputation to sustain and their responsibility and autonomy cease when their verdict is rendered. This is the body, gentlemen, which without any special examination of the criminal himself, without any training as to the complex operations of the human mind sometimes under duress, again surrounded by unspeakable terror, now decides upon the mental quality of the act. There are witnesses of all kinds and degrees, good, bad, and indifferent, and the medical witness has to be classed with these and be subject to the badgering of counsel, to the delight of the court loungers and jury, for the parsimonious fee which the court allows, unless he is shrewd enough to get a higher figure set beforehand upon his services by one side or the other, in which case his natural honesty of opinion and freedom of expression must receive a rather unfortunate bias; furthermore the opposing counsel, knowing this, frequently tries to further impeach the credibility of his testimony by dilating upon this fact to the jury.

The above sketch applies to all cases in which the physician appears as an expert before the courts. Let us enquire into the special causes for confusion and difference of medical opinion when the mental capacity of some person is the subject of enquiry. These cases may be divided into two classes.

1. Those in which the person whose mental capacity under investigation is dead. (These cases usually involve only the question of testamentary capacity.)

2. When he is living (chiefly where the plea of insanity is set up as a defence in criminal action). In one respect all these cases are alike in that the mental condition at some particular, and more or less remote time, must be determined, as when the will was signed, or the crime committed. Herein lies a difficulty. In other respects these two classes differ widely, not only in the point of view, but also in the mental phases for which we search. Just here the difference between a medical, and these, phases of legal unsoundness comes up as a confusing element. Medically, we view the mind as a whole, seeking out its impairment in detail only as a means of diagnosis and a guide to treatment. Legally the question is, given a certain condition of things at a certain time, was the mind under examination so free from disease as to be able to determine whether the act was wrong or inexpedient? the question of right and wrong arising in criminal cases, that of expediency in civil contracts and wills. It is evident that a man may be insane in a medical sense and still be quite responsible for a crime committed, provided he knew the nature and quality of the act, or that it was wrong. He might make a valid will if at the time he knew the amount of his possessions, the names of those dependent upon his bounty, and was free from undue influence and from delusions touching the matter at issue. In will cases, the medical expert, unless he knew the testator well, has to draw his conclusions from the statements of counsel and the not less biased testimony of more or less interested witnesses, often confused by opposing counsel. He cannot question witnesses except through the attorney on the side of the case he espouses, and very frequently his question gets a decided twist, either accidentally or intentionally, in its passage through the lawyer's hands. This constraint renders it impossible for the expert to gain all the knowledge of the case he requires for impartial judgment, and is a potent factor in frustrating the ends of justice.

While one of a commission of physicians sitting to in-

quire into the previous mental and physical condition of a gentleman, then dead, I learned the immense importance of the power to put questions to the witnesses, both lay and professional, on the stand. A single question from a member of the commission would frequently throw more light on the subject than twenty questions from the attorneys. In the examination of criminals as to their responsibility for the act charged, the practice now is for the physicians to examine the prisoner separately, at different times and under different conditions. The opinion of each is formed and usually submitted to counsel in writing and if agreeable to that gentleman's side of the case, the physician is retained to sustain those views before the court. This at first glance looks fair enough but is it ever really so? Notice that the physician has to form his opinion from such observation of the prisoner as he can make, supplemented by such supposed facts as the counsel sees fit to present to him. He has often committed himself to an opinion which in the light of all the facts in the case, as developed in court, he knows to be a grievous error, yet there is no alternative for him now but to stand to his colors as best he can. This is all wrong. A true presentation of the inherited traits, of the life habits, of past and present environments of the man must accompany a careful study of his present mental and physical condition before a just estimate can be made of the quality of any act he may have done. Error in these premises must lead to error in the conclusion. The medical men in this State have it in their power, under existing laws, to improve matters somewhat.

Every one should refuse to express an opinion on mental capacity or responsibility until after he has heard or read the evidence on both sides of the case, and has, with his medical conferrees on the case, examined the *persona inquirendo*, if living. If in addition, concerted action could be taken and the Legislature be prevailed upon to enact statutes in conformity with the following

scheme, our profession would take the place which rightly belongs to it and become the arbiter of questions purely medical. I would have it enacted by statute:

That all civil cases in which a medicolegal question arises shall be tried by a judge. From the testimony, the judge shall formulate one or more hypothetical questions which he shall submit to a commission consisting of three physicians selected by him from a body of physicians previously appointed by the full bench, their opinions on these questions to be final and binding. In criminal cases, from the same body three shall be selected, one each by the prosecution, the defense and the presiding judge, who should together examine the prisoner and the evidence presented by both sides of the case touching the medicolegal questions, and should verbally report to the jury their conclusions concerning those questions and answer such hypothetical questions as may have been presented to them in writing by counsel, subject to cross-examination by counsel.

Germany has long had court experts to whom medicolegal questions are referred and at the present time this subject is being agitated in France and Belgium. The recognition of the principle that the present mental condition of a criminal under commitment, or bound over for trial, should be determined by a commission of physicians with power to examine witnesses under oath has long been in our own statutes (See Revised Statutes, 1888, Section 1600 and Sections 2616 to 2620). I have diligently inquired into the working of those enactments for the last eight years and find that they have been creditable to our profession and satisfactory to all concerned. If the present mental condition of a criminal should be determined by a commission of physicians with power to examine the person minutely and examine witnesses under oath, how much more necessary that his past condition should be determined by a similar body in the same way. Concerning the decision as to testamentary capacity by medical commissioners, there is no statutory precedent in this

or other States so far as I know, but the same line of reasoning applies here with equal or greater force. The recent spectacle of a judge compelled to set aside the verdict of the jury in the Pond will case on the grounds that the "verdict was against the evidence," is sufficient commentary on the inadequacy of our present laws. If statutes similar to those I have outlined had been in force, I venture to predict, that expensive travesty on justice would never have been enacted.

THE PHYSICIAN AS A SANITARIAN.

R. S. GOODWIN, M.D.,

THOMASTON.

Since the advent of bacterial etiology in the field of practical medicine, the medical profession have taken a deeper interest in sanitary science, which of late has made phenomenal progress through the tireless researches of the bacteriologist. The prevention of disease has become more alluring and certain of results, though, alas, not so lucrative as its cure. We are entering upon a new era, whose future possibilities no prophecy can exaggerate, in which the surest and grandest triumphs of preventive medicine are yet to be achieved and in which the great mission of our profession is to be the discovery of the best means of modifying and preventing disease.

The physician, then, if he is to keep in touch with modern progress, must be in the front rank of the followers of Hygeia, whose noble science is the very synthesis of medical knowledge. His place it is to organize the army, to plan the attack and lead to victory. His subordinate officers are the chemists, the statisticians, the political economists, the architects and the engineers.

The increasing interest of the people in sanitary science and its great importance as a factor in modern civilization, demand a larger place for it in medical education. In this respect our medical colleges are inferior to those of Great Britain, Germany and France. It is true that several of our medical schools have shown their recognition of this demand. But out of the one hundred and forty medical colleges in the United States, only seven or eight give much attention to this subject. In Great Britain, out of the sixteen institutions authorized to grant medical diplomas of different grades, and whose course of study extends over five years of nine months each, no

person is allowed a degree without passing an examination in the several branches pertaining to public hygiene. In France where there are only seven faculties which confer the degree of Doctor of Medicine, similar rigid requirements are made. Formerly, the lower diploma of Health-Officer could be obtained, but this was abolished two years ago. In the German Empire, where twenty universities only are authorized to grant medical degrees, a still more extensive knowledge of this subject is required. The obvious effect of the precautions taken to insure professional competence in these countries, is to limit the number of physicians licensed to practice, and to provide that each shall be a thoroughly equipped and accomplished sanitarian. Thus, there are only 22,105 physicians in Great Britain, 16,593 in France, and 16,270 in the German Empire; while it is estimated that there are 100,000 medical practitioners in the United States, or more than there are in the whole of Europe. It is safe to say that the great majority of these have had only a two years' course of five or six months each in small provincial colleges, whose limited curriculum does not and cannot provide any instruction in public sanitation.

At the International Congress of Vienna in 1887, Dr. Smith of London, said that though a knowledge of Hygiene is widely diffused, yet a number of physicians, even in England, do not understand this science, and in cases of infectious diseases, these doctors consult specialists to learn which are the best sanitary measures to adopt in such cases.

It is probable that among the multitude of practitioners in our own country, a still more deplorable lack of knowledge may be found. The trouble is, the teaching of Hygiene is not considered of sufficient importance in our medical schools. If taught at all, it is only in the first years of the course; whereas it should be, after the student is sufficiently advanced to grasp the principles and understand its practical importance. In Paris, this study is embraced in the program of the fourth examina-

tion of medical studies. So it should be here, and in the last two years of the medical course, the teaching of this science should not be dispensed with, and an examination should be required in it, before a degree is granted.

A medical course in practical Hygiene should embrace the following topics, viz:

1st. Individual Hygiene—of clothing, food, shelter, labor, exercise, rest, cleanliness, sleep, recreation; and the influences of climate, soil and water upon the individual.

2nd. Infantile Hygiene.

3rd. School Hygiene.

4th. Hygiene of Cities—the disposal of sewage and garbage and the pollution of water-supplies.

5th. Hygiene of the Farm and Rural Life.

6th. Hygiene of the Factory and Work Shop.

7th. Hygiene of the Army and Navy.

8th. Hygiene of Hospitals, and Sanitary Provisions for Large Public Buildings.

9th. Demography.

10th. Contagious Diseases—their etiology and best methods of quarantine and disinfection.

If, as we have said, physicians are to be the leaders and promulgators of sanitary science, surely they should be, by education, fully equipped for their work. They should be interested and instructed in the subject during their medical course when their minds are receptive. Then, as a result, we should find a large number of medical men with disinterested motives, engaged in sanitary work. At present, it must be confessed that in proportion to the whole, the number is quite small. If you go to the next * meeting of the American Public Health Association at Denver, in October, you will find most of them there—a small but dignified band of able, brilliant, earnest workers in the field of sanitary science—sowing the seed which in time will yield an abundant harvest.

Most of these men have become well known, being dis-

* Read before the Litchfield County Medical Association, July, 1895.

tributed over the United States, Canada and Mexico as public health-officials, teachers, physicians and sanitarians, forming an extensive, powerful and authoritative agency for establishing and promulgating the principles of sanitation. They have published twenty large volumes, one each year, since the Association was organized in New York, in 1872. These volumes form the most valuable compendium of sanitary writings published in this country, almost indispensable in every physician's library.

In seeking for the causes which prevent medical men, as a rule, from engaging personally in sanitary work, we are at once confronted with the fact that it does not pay. The bread-and-butter consideration is a forcible one which largely dominates our professional life. Our fees are obtained for the cure of disease and not for its prevention. Hence it is unfortunate that an antagonism should seem to exist between the aims of the busy practitioner—who, too often perhaps, settles down to be a mere tinker of the human body at so much a head—and those of the sanitarian who has a broader humanitarian rôle to fill in our social life.

There are certainly many able physicians who are in sympathy with the work of sanitary reform, who believe in its methods and have faith in its results, yet who do not take an active part, because they are unwilling or unable to make the necessary personal sacrifices. To such, the suppression or prevention of an outbreak of contagious disease means an actual deficiency in dollars and cents, or a loss of prestige, to be gained in an epidemic by skill in the treatment of zymotic disease. The refusal of this class of physicians to act as public health-officers is justifiable no doubt, on the ground of the paltriness of the salary offered, the inevitable injury which sanitary work inflicts on one's private practice, and the many other disagreeable features connected with the duties of such office. Moreover, they find it more remunerative to devote their time to their legitimate professional work

than to investigations into the causes of infectious diseases, or to discussions of measures for their prevention. In other words, we repeat, the cure of disease at this end of the century is more profitable than its prevention, but let us hope that the time may come when the reverse shall be true.

It is but just to state here, that many a professional brother who, though he cannot consent to become conspicuous as a sanitarian, or to sacrifice his private interests to those of the public, nevertheless is making himself equally useful in a quiet way by sanitary advice at the bed-side or in the family of his patients, among his friends and neighbors or even at public assemblages in the community where he lives. Such a physician is everywhere and always active in diffusing knowledge concerning the laws of life and health. He takes pains to inform himself with an abundant knowledge of the subject, so that he may give useful advice concerning the common sanitary interests of all. Here, he advocates a necessary reform; there, he suggests an important modification, or anticipates and answers difficult questions. Here he seeks to save expense and relieve suffering; there, to improve health and prolong life, and in a general way by diffusion of sanitary knowledge, to elevate mankind and increase, morally, mentally and physically, the sum of human happiness.

One of the chief benefits that it is possible for members of the medical profession to confer upon society, is the establishment through the legislative branch of government, of a code of wise and carefully framed sanitary laws. No one knows better the true needs of the people, or how to formulate such laws according to the demands of science than the physician, and to him should be intrusted the responsibility of their supervision. Each one, then, should exert his personal influence with our legislators, and in our medical societies, to have this subject attended to, so that beneficent sanitary laws shall be passed and liberal appropriations made, commensurate with the

importance of the subject. Our Legislatures seldom understand or appreciate the value of public sanitation, and are apt to be niggardly in their appropriations for it. The State of New York, for example, according to Dr. Holton, appropriates in a single year nearly \$800,000 more for the militia than for its health-board. In our own State, about twenty times more money is expended for mimic war than for health.

If it be true, as was stated by Dr. Prudden in his address on medicine the other day, before the medical students of Yale University, that the medical profession by persistent and united effort, could carry through almost any greatly needed sanitary legislation, which could be shown to be vitally important, then it will be seen how great is the responsibility which rests upon us.

At the present time, the pay, voted by the State and municipal authorities in our own country to public health-officials, is ridiculously small. In Great Britain, where preventive medicine is made a subject of scientific study, and the control of preventible diseases is under governmental supervision, the case is different. There, the whole kingdom is divided into 1,500 districts, over each of which is placed a medical health-officer whose salary, paid by the state, is regulated according to the services which he renders. The health-officer is selected with special reference to his qualifications and training in sanitary work and he is kept in office during life, unless specially proven to be unfit.

In the United States, so slight is the appreciation of the value and importance of sanitary science, so willing are our public legislators to ignore and lose sight of the claims of preventive medicine, amid the petty wrangles and the muddy dabbings in the dirty pool of party politics, that the establishment of a National Bureau of Public Health has well-nigh come to be the despair of our sanitarians. In our own State, the County Health Officer Law, one of the best measures of sanitary legislation ever enacted, was seriously threatened with repeal

last winter on account of its alleged expense! Is it strange then that our best medical men should shrink modestly from identifying themselves with the work of sanitary reform, when they find such apathy and ignorant lack of appreciation among those who are intelligent and cultured in all subjects except that of healthy human living?

Is it not rather our duty and mission as physicians to stand up boldly in the face of all this gross ignorance, and for the time, laying aside the restraints of professional modesty, to utter as from the depths of the wilderness, the rallying cry of the gospel of sanitary reform?

What a splendid rôle for the physician, of devotion and heroic self-sacrifice! Possessed of profound knowledge of Hygiene, guided by the light of bacterial science, whose latest development he is prepared to expound and whose practical bearings he is ready to point out, the physician is in a position to impress a current of interesting and valuable ideas upon the world; to start a wave of scientific enthusiasm among the people, whose far-reaching results shall be the wonder and delight of generations of men yet unborn.

That which has been already done, seems to justify these expectations. Mr. Edwin Chadwick states that in Great Britain, alone, where sanitary science has made its greatest progress, and the registry of vital statistics has been most thorough and accurate, the Registrar General's report shows that the lives of 30,000 persons are saved and 300,000 cases of sickness are prevented every year by means of sanitary science.

Consul Chancellor at Havre, France, who is an expert in such matters, sends us word that practical sanitation has brought the death-rate in Munich down from twenty-four to eight; in Frankfort from eighty-seven to twenty-four; in Dantzic, one hundred and eight to eighteen; and in Hamburg from forty-eight to thirteen. Such facts speak for themselves. No comment is necessary. But this is only the early dawn and promise of triumphs sure-

ly to be achieved. The mysteries of the curative art may be brushed away; the juggling with drugs may cease; faith in the power of subtle poisons to exorcise disease may perish among men; systems of therapeutics may rise and fall, and be relegated to the lumber-room of forgotten things; but the principles of preventive medicine will live and advance step by step until the whole earth shall be filled with their fadeless glory.

SOME PRACTICAL POINTS OF COUNTRY MEDICAL LIFE. *

FREDERICK HOLME WIGGIN, M.D.,

LITCHFIELD.

I thank you most cordially for the confidence you have reposed in me, for the honor you have twice conferred in electing me your executive officer and for your kind consideration and coöperation during these official terms.

Our programme this morning has been so replete with scientific discussion that it has seemed well to me in selecting my theme to look elsewhere, and as occasional introspection into individual life has an acknowledged value, it may be a practical benefit to turn our attention for a time to the consideration of a few practical points in the daily life of the learned profession to which we have the honor to belong. Therefore, I propose briefly to touch on some points of country medical life, and later to call attention to what I believe to be the needs of this Association to further its development and to bring it to the highest state of efficiency of which it is capable.

It is frequently thought by the country physician that all the professional advantage lies with his city brother, that he alone has opportunities for gaining a fair support from his professional labors, of increasing his store of knowledge and of adding to the general professional welfare. To one acquainted with the environment of the city physician, and the many difficulties which beset him, which can be overcome in most instances only by years of arduous work before even his living is assured, this feeling is hard to understand, and to such an observer a prosperous village or small town seems a more attractive place in which to pursue the practical work of the physician; for, here are no dispensaries or hospitals, casting,

*President's address delivered before the Litchfield County Medical Association at the annual meeting held at Litchfield, October 8, 1895.

when abused, their baneful influence over the community and the profession under the guise of charity; here the public is more or less willing to share the burden of caring for the destitute with the physician; here he is able to support himself from the beginning of his professional career, of acquiring a pleasant home early in life, and of bringing up his family in the country whence, as President Elliott, of Harvard College, has pointed out, the best students come.

With the large and varied experience which most country physicians have, opportunities for making reputations occur earlier and more frequently out of the city than in it. In the country, fees are more certain to be collected, and the country physician's relations to his patients and the community are pleasanter, closer and more important than they are in a large city. If, on the other hand, country practice involves greater physical exposure and fatigue, the practitioner is spared much of the mental anxiety and financial care of his city brother—and finally, if it is objected that the fees which dwellers in the rural districts are able to pay are much smaller than those obtained by city physicians, it may be answered that the personal needs and the general expense of living are less in the country than in the city, while it is a fact that the income of the average city physician is not relatively, or actually, greater than is that received by the average country physician.

As a more intimate acquaintance with country medical life is obtained, one finds less difficulty in understanding why in the midst of so much that is desirable the mind of the average country physician is despondent. It is found that here, as elsewhere, the profession has been engaged for many years in educating the public and themselves to believe that medical professional services have little or no pecuniary worth. If the fee-table of the local medical society is consulted, the maximum rate of fees seems satisfactory and capable of returning a good income to an industrious physician, and the fees also seem well

within the means of the more prosperous members of the community; but a question elicits the answer that charges are based, not upon this scale, but upon the minimum rate, which, therefore, becomes the standard, and which is often shaded even for the well-to-do. Consequently, services and experience are sold for, and believed to be worth, only a fraction of their value, and frequently for less than a livery-stable keeper would value the services of a horse for the same time and distance. As a result of this supposed necessity of either meeting competition or retaining personal popularity, the financial results are out of proportion to the efforts expended, and are inadequate. So the physician frequently adds commercial ventures to his professional duties, which proving more lucrative, soon become the vocation, and medicine the avocation. Losses incurred in performing professional duties at ruinous prices are made up on sales of drugs, general merchandise, or farm products. Time which ought to be given up to self-improvement or in resting body and mind, is taken up with these outside pursuits, vacations are seldom indulged in, meetings of medical men are gradually neglected and less and less thought or care is given to the general professional welfare, causing possibly a still further reduction in the fees demanded. Again, accounts are carelessly kept, bills are rendered only at long intervals, and the patient, taking this as an evidence of the physician's prosperity, procrastinates about settling his account. But the worst result of this system of small fees is the gradual deterioration in the quality of the physician's services who, instead of doing the best work of which he is capable, becomes satisfied to render the poorest, as being all that the patient has paid for. The patient is frequently allowed to make the diagnosis and under this method, the writer has known good men to be credited with serious errors of diagnosis. He has known a case of imperforate hymen, with enlarged uterus, and a projecting vaginal tumor, caused by retained menstrual fluid, diagnosed a case of amenorrhea, and the patient advised that nature must take its course,

which advice was certainly not worth the fifty-cent fee paid for it; of a patient with a large carcinomatous testicle, which weighed over two pounds after its removal, having been told that he was demented when he stated his case. No examination was made, and the patient was dismissed after paying his fee, with the admonition that "some people are always imagining that they have trouble with their privates." The patient then called on the writer who, after a careful examination, diagnosed the case, and advised operation, which was consented to, and a larger fee demanded, which was cheerfully paid. The writer has known of a case of empyema, occurring in a child of four years, considered, and treated as one of worms, because the child stated that his pain was in the region of his navel; and as the fifty-cent fee was not supposed to include a physical examination, none was made. He has also known of plenrisy with effnsion diagnosed and treated as influenza because the patient suggested this diagnosis.

Aseptic surgical technic is often made light of as being too expensive for country work. One extreme case was treated on these lines, which came under the writer's notice, being that of a patient who had received an injury which crushed one of his fingers. This was amputated with an ordinary pocket-knife, the operation being naturally followed by septic infection, and this, in turn, by amputation of the patient's arm. The final outcome was the death of both patient and the physician, who had inoculated himself in his careless handling of the wound.

Such experiences, which were common when the writer began his professional career in this locality some years since, have happily ceased. The ordinary result of working under such a system as has been alluded to is, that after some years of active work and physical hardship, a complete breakdown occurs of mind, body and, unless wealth has been acquired by some other means, of estate as well. On the other hand, it was found by the writer that an attempt to render a more careful and, therefore, better professional service, was promptly met by willing-

ness on the part of the community to pay more liberally, when the reason for the increased charge was explained. The result of this was that after a few years the income derived from professional work alone was nearly double that received by the writer's predecessor in the same field after twenty-five years of toil. The benefit was certainly not wholly confined to the writer, but extended to all who practiced in the neighborhood, and to those who succeeded to the work. If it were possible without being ungenerous or oppressive to educate the public to a willingness to pay for a service what it was fairly worth in one locality, it can be done elsewhere.

People are beginning to realize that the country doctor must be a better physician than he of the city. In the course of a recent editorial in the *Medical Record* it was stated that "Country practice, strange as it may appear, demands a higher grade of professional attainments at the start than those by which a young man makes an ordinary success in the city. The country physician is a marked man from the beginning, is generally known by every one in his town and must necessarily at the very outset of his career set the pace for the remainder of his life."

Be practitioners of medicine only. Bend all your energies to the care of your patients and to self-improvement. Make your patients realize that you are abreast of the times, and doing only the best professional work of which you are capable. Attend and take part in the meetings of the medical societies. Go from time to time to the city, and see what others are doing, and get out, as Dr. W. H. Thomson aptly puts it, "a new edition of yourself."

Take a yearly vacation for bodily and mental recreation, and you will find that your patients will not object to paying a higher fee for your services when you demand it. Give more thought to the general professional welfare, bearing in mind that, "if one would elevate himself he must elevate the profession to which he belongs."

There are, of course, various ways in which this may

be accomplished, but the most practicable for most of us is by having personal pride in the reputation of the local medical association, and by taking an active part in its work. A serious effort should be made to attend all the meetings. Records of cases should be kept so that written histories of those of interest can be presented at the meetings for consideration and discussion. It is a common experience for a presiding officer, after asking members if they have not cases of interest to report, and meeting with a negative reply, to hear the same members after the close of the meeting recount various experiences of general interest.

Each member should be required in turn to write and read a short paper, the chief points of which should be furnished to some of the other members prior to the meeting, so that they can prepare themselves for its discussion.

When a member is honored by an election as a delegate to a local, state or national association, he should consider it his duty to attend the meeting. Owing largely to the failure of members appointed Fellows of the State Society to attend the meetings, this Society has lost much of its prestige, and has of late years exerted little influence on the general professional welfare. Official position should be considered one of honor and trust, and every effort should be made to perform the various prescribed duties by those chosen to fill them.

Quarterly meetings should be held regularly in different towns of the county, so that all members may each year have an opportunity of attending a meeting of the Association convenient to their own home. If the best work of which this Society is capable is to be obtained, the annual dues should be increased sufficiently to permit of the employment of a stenographer, to attend the meetings and report the proceedings. Arrangements could then be made with a medical journal to publish them. It is hard to get men to do their best literary work unless opportunity is afforded to record it. I believe that more effort should be made to develop the social side of

these meetings, and the proposed increase in the dues should admit of the general entertainment being paid for out of the Society's treasury instead of each member paying for his own, as heretofore. This entertainment could then be had at the Society's convenience.

Were these suggestions carried out, there would be little difficulty in maintaining full attendance at the meetings. These days would come to be looked upon as pleasant and profitable; days for consultation, self-improvement and social enjoyment; and, in time, your Society would become a model for others to follow, whether of city or state.

A society is what its members and officers make it, and nothing more; and to make it prosperous and influential all must join hands, each doing his duty. Individually you would soon realize the benefit. You would find your interest constantly growing in scientific medicine as you studied systematically in the preparation for the writing of papers, or for the purpose of taking part in their discussion, and this would be followed, as the members of the community realized that their doctor was up to date, by their increased respect and willingness to pay more generously for his services. People take us largely at our own valuation. Remember that much original work has been done by country physicians, and that by reason of such work great advance has been made all along the line of medical work. Jenner, the discoverer of the protective influence of vaccination; Ephraim McDowell, who in 1809 performed the first successful ovariectomy of which we have record; Joseph Glover, of South Carolina, who in 1813 first successfully performed the operation of hysterectomy; Marion Sims, the father of gynecology, who perfected the technic of his operation for the closure of vesico-vaginal fistula in the negro cabins of the South; Nathan Smith, of New Haven, who was the first to successfully perform an amputation through the knee joint, and who without knowing of McDowell's work, successfully performed an ovariectomy in 1821, advancing the technic of the operation by returning the stump into the

peritoneal cavity; and Cogswell, of Hartford, who first succeeded in ligating the common carotid artery, were provincial physicians who became world-renowned.

Of McDowell's work, Dr. Dennis has said in his essay on "The Achievements of American Surgery": "Few men can realize the influence of McDowell's first ovariectomy upon the whole field of abdominal surgery. It is indeed a sublime thought to consider that a man was found with the courage of his conviction to do what no man had ever done, and to operate within the noise of an infuriated mob beneath his windows. This mob would have lynched him if Mrs. Crawford had died. Having escaped the angry mob, he was pointed out as a murderer by his colleagues, and was also condemned by the highest scientific authorities in Europe. In America, therefore, under such circumstances, and under such conditions the birth of the greatest operation in surgery occurred, an operation destined to save in the future millions of human lives."

The *Medico Chirurgical Review*, speaking of McDowell's achievement, said: "A back settlement of America, Kentucky, has beaten the mother country, nay, Europe itself, with all the boasted surgeons thereof, in the fearful and formidable operation of gastrotomy with extraction of diseased ovaries."

Finally, Dr. Joseph Eastman, of Indianapolis, in responding recently to the toast, "Ephraim McDowell," said: "Virginia is justly proud of her statesmen, of her orators and her soldiers, but shall not the achievements of her statesmen succumb at last to the pitiless logic of events? Shall not the voice of her orators grow fainter with coming ages? Shall not the victories of her soldiers be found at last only in the libraries of students of military campaigns while the fame of this village surgeon, like the ever-widening waves of the inviolate sea, shall be wafted to the utmost shores of time, hailed alike by all nations in all ages for having lessened the burden and prolonged the span of human life?"

REPORT
OF THE
COMMITTEE ON MATTERS
OF
PROFESSIONAL INTEREST
IN THE STATE.

- I. COCAINE.
II. OPHTHALMIA NEONATORUM.

REPORT OF THE COMMITTEE: ON MATTERS OF PROFESSIONAL INTEREST IN THE STATE.

The committee has lacked the courage requisite in a departure from precedent and has followed the unwritten law of the Society. Secretly sympathizing with a County Reporter who characterizes our time honored custom as an infernal nuisance, we have sought to enforce the law not yet formally abrogated. You have accordingly been afflicted with questions and circulars until an extraordinary number have replied; however, often under protest at our persistency. We have received two hundred and forty answers, and no better opportunity than the present may be afforded in which to thank the Society for such coöperation. Interest depends much upon the number who participate, and we selected matters which may come before us at any time, and concerning which it is well to have our knowledge and opinions crystallized for our immediate guidance.

I. COCAINE.

The limitations in its use for the purposes of local anesthesia.

HISTORY.—A brief résumé of the history of the introduction of cocaine, however familiar to most of us, may make easier the endeavor of this Committee to harmonize somewhat contradictory replies.

Chewing the leaves of the coca plant has been practised for centuries by several millions of the human race, natives of western South American countries. There is abundant testimony that the users are not injured thereby but are rendered capable of greater physical exertion and that sensations of hunger, thirst and fatigue are wonderfully lessened. An occasional traveller may pronounce coca chewing pernicious, but it is far

easier for non-users of tobacco to collect proofs of the deleterious effects of the fragrant weed, and nicotine is more toxic than the alkaloid of the coca. Cocaine was isolated by Niemann in 1859. Twenty-five years afterward in September, 1884, Karl Koller at the Ophthalmological Congress in Heidelberg made known his discovery of its anesthetic power when applied to the conjunctiva. Perhaps no similar announcement concerning a previously known agent ever excited such interest and enthusiasm. Journals teemed with reports of operations done with its aid, not only upon the eye and mucous membranes but on almost every part of the body. The world's limited stock of cocaine jumped to a fabulous price. To the suggested danger of cocaine poisoning or of cocaine addiction were opposed the widely published views and experience of Dieulafoy in France, of Hammond and Bosworth in our country, and of many others. Doses of thirty, forty and even more grains were employed by Dieulafoy for operative purposes. Hammond, experimenting upon himself, injected as much as eighteen grains, pronouncing it safe in any supposable dose, and affirming that no cocaine habit could be acquired. A year after Koller's announcement, Dr. Robert Abbe wrote: "The value of cocaine as an extraordinary aid in the surgical field is daily demonstrated to the wonderment of all. Since the adoption of cocaine, ether has been used in less than half the operative cases at St. Luke's Hospital and bids fair to be further curtailed." Abbe so wrote in 1886. Before the year closed there occurred in Russia the tragic case of Prof. Kolomin, who injected twenty-four grains at different points into the perirectal tissues in order to curette and cauterize an ulcer in a young woman of twenty-three. The operation was not rendered painless: the patient died of collapse; Kolomin killed himself. A year later at the University College Hospital in England some twenty grains caused the death of a man to whom it was administered by mistake, and afterwards in our own country, Simes of Philadel-

phia reported a fatality due to the injection into the urethra of a dram of twenty per cent. solution. Dr. J. B. Mattison of Brooklyn has collected about twenty cases of fatal cocaine poisoning and of a much greater number of cocaine addiction, in which the habit has indirectly caused or hastened death. The library of the Surgeon General at Washington contains more than one hundred references to cocaine poisoning. Many of these are of course repetitions, cases being copied into various journals. As to fatal cases, Mattison's list perhaps includes all reported, but those who constantly employ the local anesthetic no longer think of publishing an occasional instance of mild cocaine intoxication.

Such was the introduction of cocaine into our practice and such the doses advocated. Since 1884 as stated above, twenty deaths have been reported, some of these from the enormous doses at first employed, some from the accidental administration of the drug; few from the small quantities now commonly used. Considering the world-wide popularity of the new anesthetic, the showing is not such as to make the safety of its administration other than a legitimate subject for our investigation.

ILLUSTRATIVE CASE.—In June, 1895, a gentleman forty years of age, apparently sound in body and in mind, manager of a large corporation in the city of New York, went by appointment to the office of his physician. A few days previous the posterior tip of one turbinated body had been removed with the wire snare. On this his second call, made for a similar operation as on the other occasion, a few drops of a ten per cent. solution of cocaine muriate were applied upon a bit of cotton introduced through the nose. A little of the fluid trickled into the throat to the expressed annoyance of the patient. Concerning the operative procedure, which was painlessly completed, he betrayed no solicitude, but before the snaring was finished became dizzy and faint. Seen shortly afterward by the writer, he lay with pallid countenance, skin cold and perspiring, respiration difficult, slow and

irregular, pulse feeble. More distressing than these symptoms of collapse were occasional slight clonic convulsions or muscular twitchings which intensified his expression of extreme anxiety. The mind was clear and he appeared to comprehend the cause of his distress, but was in terror as to its probable result. Of the agencies employed to bring about reaction, inhalation of amyl-nitrite was most serviceable. The interval between the convulsive twitchings increased until after three hours he regained his self-control, was able to carry himself without manifesting symptoms of intoxication, and proceeded to sumptuously dine his medical attendants at one of the noted cafés of the city. The case thus briefly reported was seen in consultation and is the most marked one of the toxic effect of cocaine ever observed by your Committee in nearly twelve years' use of the drug. Was it an overdose? Was it unusual susceptibility—what we term idiosyncrasy? The same operation had been done, and in the same manner a few days before. Inadvertently a little more cocaine may have been used. Is the explanation in part to be found in a remark made and repeated by the gentleman while he lay prostrate, "My little daughter told me before I came, that the doctor would hurt me to-day"? Is the fact that he so impressed his child's mind indicative of the condition of his own? Our subject was selected in the hope that collective investigation may help us to answer such queries or more broadly to determine the limitations under which cocaine may be safely employed for the purposes of local anesthesia.

REPORT OF TOXIC CASES.—Of two hundred and thirty-eight who have answered our questions, fifty-one have seen alarming results from the use of cocaine. Of these who have observed such toxic effects, thirty appear to make no less frequent use of the local anesthetic in consequence. Some of the observations reported were made in hospitals without the State and at a time when large doses were freely used; in others the symptoms were mild and only the patient alarmed—cases chiefly, perhaps, of

nervous shock. Some were persons addicted to the use of the drug; others followed accidental administration. Extending over the entire time which has elapsed since the anesthetic power of cocaine was made known, the following members of the Society have seen toxic and nervous symptoms more or less directly referable to the use of the alkaloid and are inclined to distrust its safety or to employ it less frequently:

Name of Reporter.	Observation.	Detail.
Dr. W. L. Barber.	Nervous symptoms and delirium.	Ten per cent. spray to pharynx.
Dr. C. P. Bennett.	Rapid pulse, cold surface, syncope. Operation; removal of wen.	Injected into scalp. Patient an extremely neurotic woman.
Dr. A. B. Coleman.	No alarming results from cocaine.	Considers bleeding and pain greater after effect has passed off.
Dr. T. D. Crothers.	Not a safe remedy in any case.	Experience confined to drug habits.
Dr. W. M. S. Curtiss.	Alarming toxic symptoms.	Injected into the gums for extraction of teeth.
Dr. W. R. Davis.	Convulsions.	As above for extraction of tooth: Four per cent. solution.
Dr. E. P. Douglass.	Cardiac depression—operation for necrosis of thumb.	Injected fifteen minims of four per cent. Woman of thirty.
Dr. S. M. Garlick.	Fainting and cardiac depression.	Patient, an hysterical woman.
Dr. E. W. Goodenough.	Intoxication — woman not strong—operation, removal of nasal polypus.	Four per cent. solution used freely—over space of half an hour.
Dr. F. C. Graves.	Fainting and irregular pulse.	Fifteen minims of a four per cent. hypodermatically. Good reaction after giving stimulant.
Dr. W. H. Gray.	Collapse, muscular twitching—operation for deep abscess.	Twenty minims of a four per cent. solution injected. Patient, a very nervous man.
Dr. F. P. Griswold.	Collapse for ten minutes after opening abscess.	Ten minims of a four per cent. solution subcutaneously. Patient debilitated.

Name of Reporter.	Observation.	Details.
Dr. H. H. Heyer.	Nausea, vertigo, weak and irregular pulse.	Rectal use and nasal spray.
Dr. M. C. Hazen.	Refers to use by public speakers, etc.	Internal use. Addiction, etc.
Dr. J. J. Kindred.	Cardiac weakness—operation; hypertrophic rhinitis.	Amount used not stated.
Dr. S. Pierson. Dr. F. Schavoir.	Alarming dyspnea. Excitement and dyspnea.	No details. Twenty minims of a four per cent. solution injected for perineorrhaphy and for ingrowing toe-nail.
Dr. F. S. Smith.	Alarming symptoms after injection into scalp and also inhalation in laryngeal tuberculosis.	Quantities not stated.
Dr. G. D. Stanton.	Alarming results in operative surgery from four per cent. solution.	Amount used not given.
Dr. J. J. Wilson.	Faintness from injecting four per cent. solution.	Amount not stated.
Dr. J. W. Wright.	Alarming symptoms in a woman of thirty.	No details.

From the thirty remaining reports of toxic effects from cocaine, a few illustrations will suffice.

Dr. O. J. D. Hughes, while reporting cases of intoxication from subcutaneous use, thinks safety is assured by combining with carbolic acid, and uses cocaine more.

Dr. J. A. Meek reports cases of addiction from self-application to nasal membrane by means of medicine-dropper; uses it more than ever as local anesthetic.

Dr. C. E. Munger fully describes severe toxic effects in cases when, local anesthetic proving inefficient owing to magnitude of operation on trunk, etc., ether was substituted—uses cocaine more and considers any required quantity safe if circulation can be controlled.

Dr. A. M. Purdy reports injection by a dentist of twenty minims of a twenty per cent. solution (gr. iv) into the gum of an old man who collapsed and narrowly es-

caped dying; "could hardly get along without it. Safe if properly used."

Dr. M. S. Tudor has observed effect of a grain given by mistake every two or three hours to a child of about one year. This was followed by convulsions but the child recovered.

These answers indicate that nervous symptoms due to or attributed to cocaine are in little proportion to the doses employed, and it is as difficult to deduce the minimum amount which may be followed by unpleasant effect, as to state the quantity of morphia or the length of a voyage required to induce nausea in a susceptible person. Examination of the list shows that most of the toxic cases where dose and mode of administration are given, have followed injection into the vascular tissue of the rectum, into the gum for tooth extraction or the use of spray whether employed for anesthesia or other purpose. One member reports a case within his knowledge, but not under his own observation, where forty-eight grains were taken by an adult. No deaths have been reported in this State, and when we consider that the observations cover the introduction of the drug with the large doses first advocated as safe, and the subsequent period of perhaps undue apprehension, surely cases in which severe toxic symptoms not due to mental impression or nervous shock but directly chargeable to the anesthetic, have been but rarely observed by our members.

Statistics often mislead and it is natural to turn to the experience of those who are most familiar with the use and effects of cocaine. We quote from Dr. H. L. Swain: "I have used cocaine many times daily nearly every working day for the past nine years and have never had any results which were at all alarming. I have frequently had people look a little pallid and feel faint, but could not separate these feelings from ordinary faintness due to operation, except perhaps two or three times."

Dr. W. T. Bacon. "Have never seen any alarming effects follow the use of cocaine. Subcutaneously use two or three drops of a two per cent. solution."

Dr. F. S. Crossfield. "Have seen no such effects. Find it indispensable in my work (throat and nose). Never give it to a patient to use *ad libitum*."

Dr. T. D. Crothers. "Not a safe remedy in any case."

Perhaps your Committee can reconcile something of this seemingly wide difference of experience and expression. While we have no knowledge of death occurring in this State at any time from the induction of local anesthesia by cocaine, many cases of addiction are reported to us. Of such cases Dr. Crothers has seen some fifty, "four-fifths of which had been given the drug for catarrhal and other inflammations for local effect, and the effects had been so pleasant that they have not abandoned its use." Dr. Crothers claims no experience with the use of cocaine in minor surgery, and it may be noted that quite a number of the instances of cocaine intoxication reported to us (in persons not addicted) have resulted from the employment of a spray in the nose or throat, or the introduction of a solution by means of the medicine-dropper (as reported by Dr. Meek.) Perhaps the difference of views according to standpoint of observer may appear still more natural when we consider the doses and the mode of application in which cocaine is at this time chiefly used by those making most frequent employment of the local anesthetic.

THE DOSE.—As regards administration by the stomach, a few members do not answer as to maximum but use sometimes fractions of the grain for nausea, etc.

One hundred and twenty-five reply directly, generally placing the limit of safety at a grain or two. Many however never use cocaine internally and there are few who appear to attach much value to it. While one hundred and forty members agree as closely as could be anticipated in stating the largest safe dose for subcutaneous use at one grain or less, it appears that weaker solutions are constantly growing in favor.

USES OF COCAINE.—Of two hundred and three members of this Society who reply to question three, relating to their employment of cocaine, one hundred and fifty-

two are perhaps inclined to increased reliance upon it for anesthetic purposes and fifty-one to use it less; of the latter thirty have met no toxic cases. In ophthalmic practice, cocaine completely holds the place so quickly filled after Koller's discovery. It is rarely prescribed to be entrusted to the patient's own hands and no one suggests that danger attends its use in this department of medicine. The objection that more failures occur after cataract extraction, made soon after the adoption of local anesthesia, is not borne out and is almost forgotten. Ether is rarely used unless for enucleation or for operations on the orbit. Not only is local anesthesia safe by all testimony but in some procedures as in tenotomies for correction of squint, the coöperation of the patient contributes to good results. Intra-nasal surgery has been made almost too easy and toxic effects are almost always due to a faulty use of the alkaloid. The comparative frequency with which such results have followed the use of sprays in the nose and the large per cent. of habitués who first learn of the soothing effects of cocaine so used and perhaps self-applied, are leading our members to pronounce unsafe the cocaine-atomizer and the medicine-dropper as a mode of intra-nasal application. The matter is hardly overstated in the reply received from Dr. G. J. Holmes: "It is unsafe as a spray, in the patient's hands, stronger than one-quarter of one per cent.. The mucous membrane to be operated on only should be anesthetized; the solution may be ten per cent. on a piece of cotton." Used in this way with no superfluous drop to trickle into the throat far better local effect is obtained than by a spray which is wasteful, uncertain and unsafe, as it is impossible to say how much must be used to secure the desired anesthesia.

For operations upon the extremities, upon the prepuce, etc., the rubber bandage or cord places the entrance of the drug into the circulation well under the control of the operator. Many of our members use cocaine subcutaneously in no other way and deem any quantity needed

to secure anesthesia entirely safe. Corning's device of rubber rings to surround the field, secures a degree of safety in work upon the trunk. To render painless the introduction of an instrument into the urethra an injection of a solution of cocaine is most serviceable. Two or three fatalities like that reported in 1888 by Simes of Philadelphia suggest caution as to quantity, especially in view of the probability of rapid absorption in the recently cut urethra. Dr. C. S. Lamb reports severe toxic effect from about five grains, so injected. Dr. A. T. Woodward, Honorary member of the Society, who makes a formal and very suggestive reply to our circular, has met no alarming results from the use of cocaine. He says: "I commonly use a two per cent. solution subcutaneously as I am able to use a larger number of drops and consequently can inject it in numerous directions which is very satisfactory, especially in removing tumors. A two per cent. solution will make painless internal division of urethral stricture." Dr. David Webster of New York, who is also an Honorary member of our Society, employs a two per cent. solution subcutaneously for operations upon the eyelids, usually about ten minims, and has never met alarming results. Similar reports were received from other members. Dr. W. S. Watson formerly used a four per cent., has injected one dram, now uses two per cent. with equally good results, has never seen toxic effects, uses cocaine more and in weaker solution. Dr. W. J. Ford says: "A more satisfactory result can be obtained with twenty-five minims of a two per cent. solution than with fifteen minims of a four per cent. I am using less cocaine and more water all the time; am more apt to use a one per cent. solution than a stronger one, have never met toxic effects, am using cocaine more." Dr. C. E. Stern also speaks of obtaining good results from a one per cent. solution.

The extreme sensibility and vascularity of the tissues render cocaine unsuitable for rectal work. Kolomin has already been shown to have been unable to obtain anes-

thesia with a fatal dose. Several of the most alarming cases reported to us have followed injection for hemorrhoids. Cocaine anesthesia for extraction of teeth is anatomically impracticable.

We have shown that cocaine was enthusiastically introduced into practice as safe in any dose and for every purpose: That despite a world-wide popularity and the employment of enormous doses but few deaths, hardly more than twenty, have resulted, in some of which it was taken by mistake, but that an enormously greater number of cases of addiction have occurred. Reaction and distrust were inevitable. Perhaps had cocaine always been employed in the moderate doses and weak solutions now advocated, no such distrust would have arisen and cases of intoxication would have excited less apprehension. True, instances occur in which fainting and even convulsive action follow operations in which only small quantities are employed. But the frequency of syncope and of hysterical symptoms whenever surgical procedures are undertaken without an anesthetic is to be remembered. Mental impressions due to the sight of instruments, the stroke of the knife and the flow of blood are prevented by ether, not by local anesthesia. Often it is a chief advantage of ether or chloroform that consciousness is abolished and with it the nervous shock of seeing and knowing.

The safety of cocaine as now used is so far established that recent investigations have been directed to the facilitating with its aid anesthesia from ether and chloroform. Dr. Gerster in the *Annals of Surgery* for January, 1896, published a series of one hundred consecutive cases from his service in the German Hospital in which cocainization of the nares was practiced after the method of Paul Rosenberg. The advantages claimed by Rosenberg are:

1. Prevention of the feeling of suffocation.
2. Cutting short the stage of excitement.
3. Infrequent vomiting.

Gerster concludes the report of his own series of cases: "On the whole, it is safe to conclude that in view of the ease and simplicity of the procedure, of the absence of apparent risk, and on account of the undeniable diminution of the trying subjective effects upon the patient caused by the use of cocaine upon the nasal mucous membrane, its extended and systematic trial deserves encouragement."

From consideration of the material placed at our disposal by the members of the Society, we conclude:

That the internal administration of cocaine is not increasing.

That the danger of addiction outweighs the little efficacy attributed to the remedy.

That the local use of cocaine self-administered as in form of spray or solution is open to the same danger and in greater degree than attends the internal use.

That in neurotic persons and those in whom there is great dread of the operation, small doses may intensify nervous or hysterical phenomena; what we call idiosyncrasy is potential.

That subcutaneously in minor surgery and by application to the mucous membrane for the purpose of local anesthesia the use of cocaine is increasing, but in smaller doses and weaker solutions.

That so used with the precautions available to restrict the application and to minimize the quantity to the requirement of the case, the employment of cocaine is practically free from danger.

II. OPHTHALMIA NEONATORUM.

PREVENTION; TREATMENT.

IMPORTANCE OF THE SUBJECT.—Connecticut contains about as many of the blind as thousands of population, and the United States between fifty and sixty thousands of these unfortunates. The number is four times as great as when the population was one half what it now is.

Population of Connecticut on 1st day of June, 1890, 746,258

Number blind in both eyes,	724
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Number blind in one eye,	1,086
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Population of United States, June 1st, 1890, 62,622,250.

Number blind in both eyes,	50,411
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Number blind in one eye,	93,988
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Number of blind in both eyes per 1,000,000 of population:

For the census of 1890,	805
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For the census of 1860,	403
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—From the eleventh census, 1890.

Children who are sightless must longest be a public charge or a private care. Of the latter one half have become blind through communicable, preventable and usually curable disease. These figures suggest the far greater number who have escaped total loss of sight, yet have sustained permanent impairment, thereby restricting education and vocation. If to anyone our subject appears diminutive, the facts remain that interest in the prevention of blindness steadily increases in civilized countries, that infantile ophthalmia is the most prolific cause of blindness, that it is widely taught that the disease can be prevented and can be cured, and that upon the medical attendant a case terminating unfortunately is apt to react more unfavorably than for example, an

infant's untimely demise from cholera infantum or pneumonia.

ILLUSTRATIVE CASE.—On September 22, 1895, a member of this Committee was called in consultation by a careful and conscientious practitioner. The patient born, on the ninth, now nearly two weeks old, had been attacked on the thirteenth, with a severe inflammation of the left eye, the lids becoming swollen and dusky with a copious purulent secretion. At the time of our visit, nine days after the disease appeared, a considerable portion of the cornea was necrotic; perforation and staphyloma had occurred. The right eye was not involved and our efforts were directed to preventing if possible, extension of the infection to it. The attempt failed and five days later the lids of this eye were dark, tense and swollen with creamy discharge. At this time the attending physician and the parents united in a request that the writer assume the further charge and responsibility of the case, which was acceded to, conditional upon the immediate removal to hospital of the infant, where it was taken with the mother. With the continuous care of nurses, to whom during the previous months of the year had been intrusted three cases of the same disease, with a care unattainable under the environment of the home, the eye last attacked recovered without impairment but wholly so only after the lapse of many weeks. That the eye first involved is sightless, it is unnecessary to add.

PREVENTION.—We know that Crede's method of prophylaxis practically stamped out ophthalmia neonatorum from the large lying-in-asylums of the world. In these institutions the eyes are usually cleansed with water immediately after birth and a minim of weak solution of nitrate of silver dropped into the conjunctival sac, while in many disinfecting vaginal injection is also practised before delivery. That such precautions are not generally considered necessary in private practice, is evident from the replies received from two hundred and thirty-three

of our members, of whom seventy report one or more cases of ophthalmia neonatorum during the past year. Some seen in consultation have been reported by more than one observer and a rigid diagnosis may further diminish the number. For example, a member has included conjunctivitis recovering in two or three days, perhaps making a total greater than that of all coming under the observation of those engaged in ophthalmic work, and also far in excess of the record of the health-officer of his town. But with most liberal deductions for repetition and doubtful cases, our replies leave no possible doubt that the disease follows a larger per cent. of the births in this State than in any well conducted maternity hospital. Within a month the writer has examined an infant blind in both eyes from ophthalmia occurring immediately after birth last Autumn, and the case was in the practice of a member who has not replied to the circular of your Committee. How many occurred in the obstetric practice of our members and in how many the confinement was conducted by a midwife, we have no means of knowing, this being a delicate line of inquiry. Certain it is that but twenty per cent. report it as their custom to direct antiseptic douches before the birth of the child and fewer still follow Crede's method in private practice. Such precautions are commonly resorted to only where there is unusual leucorrhea or a suspicion of gonorrheal infection. The general reliance is upon the washing of the infant's eyes with warm water or perhaps a solution of boric acid. Several state expressly that they themselves always wash the eyes of the new born. In illustration we quote from Dr. C. E. Bush: "I attend to the first washing of the eyes myself, and put in each eye a drop of solution of silver nitrate of one per cent." And from Dr. C. S. Stern: "The first thing after cutting the cord, I wash the inner canthi and eyelids thoroughly with a solution of bicarbonate or borate of sodium in warm water." They are not among those reporting cases of ophthalmia neonatorum.

TREATMENT. 1. Cleansing.—Frequent, if necessary almost constant cleansing of the eyes is by all considered most important in the management of the disease. Seventy per cent. of those who have replied to our circular prefer a warm (100° to 110°) saturated solution of boric acid; sterilized water is used by twelve per cent.; by the others, dilute solutions of borax, of mercuric chloride (1 to 10,000), of potassic permanganate or listerine. While a blunt pointed syringe answers well, nothing more convenient has been suggested than the little glass douches called *undines*; separating the lids and washing in this way every half hour or as often as discharge appears is the usual direction as to frequency. After washing, a free use of vaseline not only applied to the lids but introduced within the sac is much in favor and at least tends to prevent cohesion and retention of the pus.

2. COLD AND WARM APPLICATIONS.—In the early stages of the disease cold is generally used if the infection is severe. Compresses of linen are successively transferred from a block of ice to the eyelids. The length of time the application of iced cloths is continued and the frequency of repetition vary with the intensity of the inflammatory process. An average direction may be to apply iced cloths for half an hour, repeating every three hours. Cold applications are serviceable when agreeable, and are agreeable, giving sense of relief during the stage of increasing inflammation. In older patients this sense of relief may guide us in the choice of cold or warmth; in the infant the rule may be stated as cold during the stage of increase or destruction, warmth during the stage of decline or repair. Warm applications in the form of irrigation for cleansing are often the only ones resorted to after the affection has become fully established, but bits of linen taken from boiling water or a solution of boric acid, pressed between the folds of a towel and then laid over the lids one after another are serviceable in the reduction of the inflammation.

3. **ASTRINGENTS.**—Astringents are employed by nearly every reporter; there is a practical unanimity in the choice of silver nitrate of an average strength of about two per cent. The lids are gently everted, the solution brushed over them and after a moment or less, washed off with water or a dilute saline solution. A tendency may be noted among many who treat ophthalmic cases to defer employment of silver or other astringent until the stage of decline, somewhat as in the treatment of gonorrhea it is common to defer injections until acute symptoms subside.

SPECIALISM AND OPHTHALMIA NEONATORUM.—An answer returned in a few instances, "I send to a hospital," or "Turn over to an oculist," may be briefly considered. No doubt in the somewhat rare cases of purulent (gonorrheal) ophthalmia in adults the probability of corneal ulceration and destruction is so great that in the interest of the practitioner, if not the patient, the case should be in the hands of an expert in the management of diseases of the eye. The responsibility should be on him best able to carry it and to protect himself in event of an unfortunate termination. Such patients can and usually do seek the specialist if the danger is fully explained. In infantile ophthalmia the danger is less and corneal injury is escaped in at least four fifths of the cases receiving any ordinary attention while permanent injury may be avoided in almost every instance with early recognition and efficient care. Too much depends on the unremitting and intelligent efforts of the nurse to admit a doubt that from the destitute, the uncleanly and ignorant, it is in the interest of the community to send to the hospital when possible. But hospital treatment cannot be secured in the majority of cases of ophthalmia neonatorum, and it is well to remember that the particular advantage or skill of the specialist in the disease under consideration consists chiefly in the deftness with which he everts the lids without injury and in his careful and thorough inspection of the cornea.

Surely the requisite expertness should be acquired by all who assume the care of these cases. With the little patient upon the lap of an attendant by whom the hands may be held, with the head gently but firmly grasped between the physician's knees, pressure upon the bone below the orbit safely everts the lower lid while the upper one is retracted by the finger gently applied to the tarsal margin. For cleansing, for the application of astringents, this separation of the lids is sufficient and even for inspection of the cornea a lid-retractor is rarely needed.

CONCLUSION.—Let the first inspection and the cleansing of the eyes of the new-born be commonly understood to be a duty to be performed by the physician himself and our recently enacted law for the Prevention of Blindness will become effective. Results may be obtained like those reached in Switzerland where similar legislation was enacted thirty years ago. Of Prof. Horner, the champion of this legislation, it has often been said that during his lifetime he enjoyed the knowledge that no child born after 1865 was admitted to the large institution for the blind at Zurich with the sight lost from *Ophthalmia Neonatorum*.

Some discussion followed.

Dr. H. E. Barber quoted the opinion of an old physician who said that he would not use cocaine. Dr. Barber had himself never seen any bad effects from it.

Dr. Loomis.—The dentists are using cocaine. Dr. Morton uses a mixture of cocaine and guaiacol. With the mild pole of a galvanic battery the solution can be driven through the bone and the tooth extracted without pain. The sensitive dentine can be rendered insensitive by applying the electric current. He has called the attention of the dentists in Derby to it and they have extracted teeth without pain. Two dentists in the town have apparatus for the purpose, and they say they can do better work in filling, too. It takes about fifteen minutes to do an extraction.

Dr. F. M. Wilson.—I cannot let the occasion pass without an expression of praise at the careful and judicious summing up of the report. There is nothing left to say. It has killed the spray, which should be done. In ophthalmia neonatorum there are two points. The most important one is to teach the nurse to use a deftness in the mechanical removal of the pus, so as not to harm the eye. The second is in the use of so-called astringents. Some eight or ten years ago I presented to this Society a paper upon the treatment of conjunctivitis, citing ninety-six cases. I alluded disparagingly to the term astringents. It is a faulty word and conveys a wrong idea. We now know that bacteria are the cause of inflammation. Nitrate of silver was used long ago, and has always been efficient. We did not know that it destroys bacteria but its efficacy is due to that fact.

SURGICAL PAPERS.

REPORT ON THE PROGRESS OF SURGERY.

SOME NOTES ON THE PROGRESS OF SURGERY IN THE UPPER EXTREMITIES.

HARMON G. HOWE, M.D.

HARTFORD.

HEAD AND CHEST.

The attention of surgeons is generally so completely occupied with possible and impossible abdominal operations, owing to the extreme prevalence of disease in this locality, that I have but a limited number of points jotted down which are really worthy of your attention. Of necessity nearly all of this paper is culled from medical literature, and in many instances authorities are not quoted. In operative surgery there are not many new methods to call to your attention.

SURGERY OF THE HEAD.

Trephining for the relief of epilepsy is being constantly done with varying results. Tumors of the brain have been successfully removed but no new methods devised to my knowledge. The location of tumors of the brain is becoming perfected, but much remains to be desired in methods of diagnosis.

Dr. Nicoladoni of Innsbruck has devised a new method of osteoplasty of the skull. He marks out a piece of bone on the denuded skull with a gutter, and with a very fine bent saw separates the outer from the inner table of the skull and transplants the piece thus separated to the place which it is designed to fill.

A celluloid plate used in place of fragments of the skull is reported by Dr. Keef of Providence, R. I., and others.

Dr. Abbe of New York, not having gold-foil or celluloid after trephining, substituted a piece of sterilized gutta-percha tissue an inch in diameter. Primary union took place throughout the depth of the wound. The ultimate fate of the rubber-tissue was a matter of conjecture with him, but his impression was that it would remain imbedded as a bullet might.

A new method of exposing the frontal, ethmoidal, and sphenoidal sinuses is described by Gessenbauer. It consists briefly in elevating the nasal bones by an incision through the eyebrow, along the supraorbital margin, passing down the side of the nose, close to the inner angle of the eye and uniting with a similar incision on the other side by a transverse incision over the bridge of the nose at the juncture of the osseous and cartilaginous portion, and dividing the cartilage of the nasal bone by a sharp chisel, resecting the nasal processes of the frontal bone which form the superior part of the orbit; after the division of the ethmoidal and the attachment of its perpendicular plate over the vomer, the bones with the attached and superficial structure were turned back in one flap, laying bare the ethmoidal and frontal sinuses.

ON PENETRATING WOUNDS OF THE SPINAL CORD.

Enderleu, as a result of experimental studies on animals comes to the following conclusions:

1. The degeneration of the spinal cord after a wound is not localized to the point of lesion, but extends to the adjacent part.

2. The extension of the degeneration is not always uniform; that is, there does not appear to be any rule governing the process; however, the more extensive the lesion, the greater the extent of degeneration.

3. In the course of time the number of swollen axis-cylinders decreases, but they may be found for a comparatively long time.

4. In consequence of the lesion there is an increase in the neuroglia.

5. The gray substance assumes its normal condition

in a short time; above and below the wound, there is seen an increase of the ganglion-cells; in the region of the wound these cells degenerate.

6. Independently of the point of lesion there are points of degeneration in the spinal cord, partly on the side of the puncture, and partly on the other half.

7. As regards the arrest of degeneration in the several fibers, it will be found that in many cases the posterior fibers are already free, while in other tracts there are still swollen axis-cylinders and wide gliameshes. In a few cases the opposite may exist.

As regards the swelling, the author noted its presence two hours after the wound. He could find no instance of regeneration after the injury.

The author also injected fresh blood above and below the dura, and also introduced small particles of kidneys beneath the dura, and found degeneration as a result. This he did not think due to pressure but to disturbance of the circulation, either active or passive.

The clinical part of the paper included sixty-seven collected cases. The lateral swelling and softening of the cord are more extensive than would be supposed on pure anatomical grounds. If certain paralytic symptoms disappear during the progress of the case, it is due to the subsidence of swelling and vicarious functions of tracts that remain intact.

X. RAYS.

In the surgery of the bones and foreign bodies in soft places the Roentgen rays are fast becoming a permanent factor in diagnosis and are being used in this country in the larger centers of population almost daily. The public press is filled with experiments, and the future usefulness of this means of diagnosis and treatment cannot be told. The scientific men interested in experiments with these rays in this country are numerous and many of them are doing very excellent work. Their great aim seems to be to shorten the length of exposure and to produce the image in such a way as to allow immediate opera-

tion under its reflection. This certainly is one of the greatest discoveries of this century in a surgical sense.

BONE IMPLANTATION.

Barth gives his results of this study as follows:

Apparent vitality of the fragments is frequently only apparent. In reality they often undergo anemia-necrosis and are substituted by new bone-tissue. Dead bone seems to answer the same purpose as the living if it fills the defect properly.

The deposition of bone takes place only on the surface of the fragments. Bone in which the animal matter has been destroyed by heat answers the same purpose. The beneficial influence seems to depend upon the presence of the calcium salts.

FRACTURE.

Dr. Smith of Boston advances the following propositions for the treatment of the fractures of the elbow-joint, and neighborhood:

1. All fractures of the lower end of the humerus, once in position, are held in place if the fore-arm is kept actually flexed.

2. Such flexion can be used without danger to the limb or undue distress to the patient.

3. The only force required being one of flexion, no rigid apparatus is needed, it being sufficient to strap the fore-arm to the arm. One of the strong points of this treatment, therefore, is its perfect simplicity.

4. The only points to emphasize are: Be sure to replace fragments as flexion is made, taking great care that the internal condyle is as low as possible and the joint not widened by effusion between fragments. If the condyle is kept down no gunstock deformity can occur.

5. In the cases thus far treated the amount of motion gained has been slightly greater than after ordinary methods. The amount of deformity has been very much less.

Dr. Charles McBurney reported the reduction of dislocation of the humerus complicated by a fracture at the

anatomical neck by his method of drilling into the head of the humerus and inserting a small steel hook so as to gain control of the head, using traction in such direction as to replace the head of the bone in the socket, after which the fracture is set and the fragments sutured together with cat-gut, and the whole shoulder and arm encased in plaster of paris. Passive motion was begun in five weeks.

SURGERY OF THE LUNGS.

Paul Reclus at the Ninth French Surgical Congress reviews this subject and concludes:

1. That the surgical interference in tubercular cases must be proscribed.

2. In primary cancer no conditions can occur in which pneumonectomy would be feasible.

3. As regards cavities, incision is sometimes a justifiable palliative measure.

4. Resection of a portion of the lung for hemorrhage is a last resource; that its success in three reported cases requires the surgeon to bear the procedure in mind.

5. Hydatid cysts, gangrene, and abscess are all benefited by incision. The intervention in these cases is radical and often saves the life of the patient.

In operating on the gasserian ganglion by Keene of Philadelphia, and others, the skull being opened by the Hartley method, a troublesome hemorrhage has invariably taken place.

TUMORS AND ABSCESES.

The researches of Bruns and others have shown that the thyroid duct exerts a specific influence in many forms of goiter, and causes either rapid decrease in size or their total disappearance, except those seen in Basedow's, cystic, and malignant varieties. The dose was two drams and one-half of the fresh gland in eight days.

Boissard, in *British Medical Journal*, in speaking of abscesses of the mammary, distinguishes galactophoritis-inflammation of the mammary ducts and acini, from lym-

phangitis, which attacks the connective tissue around the glands. The two forms are often mixed and some of the worst cases of fistulous tracks and frequent repetitions of acute inflammation are the result. Uncomplicated galactophoritis may arise from a very slight abrasion near the orifice of the duct or it is possible that it may follow the entrance of streptococci or other germs into a healthy duct. The disease causes little pain, slight feverishness, but often no rigor; but free pus issues from the nipple. Milk containing pus, as compared with pure milk, is of a grayer or greener hue, and is not so quickly absorbed by wool kept against the nipple. It does not freely trickle from the nipple but tends to clot around the part, being less fluid than good milk. The child invariably suffers and death is almost certain. Boissard recommends pressure upon the breast until every drop is squeezed out from the breast, under chloroform, pressing from circumference to center. When no more of the pus-charged milk escapes, the nipple and breast must be freely poulticed for half an hour with a solution of sublimate or naphthol, three or four times within a week and a compress applied. Vernereuil in the same Journal advises compression, not only in inflammation but in cystic tumor of the breast by perforated leather stays, laced up behind, applied over wool. Prof. Pinard advises application of boracic acid to all nipples during lactation. Others advise a solution of red iodide of mercury. Compression by large sponges gives good results in the hands of some surgeons.

Retropharyngeal abscesses are sometimes opened on the posterior border of the sterno-mastoid muscle. Prof. Moorhof is treating cold abscesses by the injection of extract of tencrin under antiseptic precautions.

SURGICAL TREATMENT OF DISEASES OF BONES AND JOINTS.

In tuberculous disease W. A. Lane of England cleans the cavity out thoroughly, then plugs it with iodoform which has been sterilized with carbolic lotion, claiming that any tubercular organisms left in the wall of the

bony cavity are destroyed by the products of the decomposition of the iodoform which is brought about by the living tissue. The probability of success in these cases is often much lessened by the presence of organisms other than tubercular. He says: "Feeling very dissatisfied with the results I obtained in these cases, I looked about for some non-poisonous drug, which under the influence of living tissues would form products more powerfully germicidal than those which result from the decomposition of iodoform. It occurred to me that sulphur might produce sulphurous acid in sufficient quantity to be of service as a germicide, if it were placed in contact with a raw surface. Consequently, I used it largely in the treatment of cases such as I have referred to, and found that instead of its being a comparatively inert substance, when in contact with recently incised structures, it produces materials which are powerfully caustic and destructive in their action, while at the same time a small quantity of sulphuretted hydrogen is evolved. It would seem that sulphurous acid is first formed, and that it rapidly becomes converted into sulphuric acid. In my earlier cases I left the sulphur for too long a period in contact with the living tissues, and so produced an excessive destruction. Now, in a recent wound, it is left for only twenty-four hours, and this time is sufficient to render the part sterile. When the surface is a granulating one, as in any discharging tubercular cavity, sulphur is very much less destructive in its action, and can be introduced frequently with the greatest advantage.

When used in a recent wound the precipitated sulphur sterilized by being kept in one to twenty carbolic lotion is diffused through plain gauze either in its moistened form or mixed with a little glycerine, while for injection into tubercular cavities it is made into a cream with glycerine, when it passes easily through the nozzle of a syringe. It is used in the same way for tubercular ulceration of the bladder or rectum, where it acts with marvelous benefit to the patient.

When the various joints of the tarsus or carpus are affected by tubercle, the emulsion of sulphur may be made to diffuse itself between the several bones by a little manipulation. Since I discovered the remarkable germicidal qualities of sulphur, I have never been obliged to amputate for tubercular disease, and I trust that by the use of this powerful remedy, amputation for tubercular disease will not be required in the future.

In the case of lupus, sulphur applied on the raw surface causes rapid destruction. He also uses it in extensive ulcerative stomatitis and foul ulcer about the mouth.

He summarises the action of the drug:

1. Sulphur exerts no deleterious influence on the health of the patient.

2. It gives rise to products which are powerfully caustic in their action.

3. It destroys all organisms with which it comes in contact, whether in a cavity or in the tissues in the immediate vicinity.

4. It acts very much more powerfully upon recently incised tissues than upon granulating surfaces.

5. It does not interfere with the vitality of healthy cutaneous or mucous surfaces.

6. Its action is rendered more uniform and general, and less violent, if it is mixed with glycerine in the form of an emulsion.

7. If used in a recent wound it should be removed at the end of twenty-four hours, but if used for an ulcerated surface or a tubercular or other cavity, or for tissues whose circulation is impaired, it may be applied at intervals for many days.

8. Precipitated sulphur is much more useful than the sublimed variety, owing to its finer consistence.

9. An abundant, hot, moist compress is often of service in increasing the activity of the chemical processes.

CANCER.

Mr. George King and Dr. Arthur Newsholme, in the "Proceedings of the Royal Society in England," con-

clude that the apparent increase of cancer, including sarcoma, carcinoma and rodent ulcer and agree, that the apparent increase of deaths from these causes is due to more correct diagnosis, and the apparent proportionate increase to the increase in the number of persons who attain to mature age, this being almost wholly a disease of mature age.

Nothing new in etiology was brought forward during the past year.

Dr. Coley in the London *Lancet* gives the result of twenty-five sarcomata, and ten cases of carcinoma, treated by what he terms the combined toxins obtained from pure cultures of the bacillus of erysipelas, and the bacillus prodigiosus, which he found of very little use in gland carcinoma, of slight benefit in epithelioma, and of great benefit in sarcoma. In twenty-five cases of the latter, six appeared to be cured. One case of sarcoma of the tonsil and neck, which had twice recurred, was cured and remained well three years afterwards. Of the remaining nineteen cases, nine showed marked improvement, eight slight improvement, and two no improvement. All the above cases were beyond operative treatment. A six per cent. solution of salicylic acid in a sixty per cent. solution of alcohol injected into the growth is recommended by Dr. Bernhardt, in "*Annals of Surgery*."

The treatment of inoperable malignant tumors with the toxins of erysipelas and bacillus prodigiosus has been used by Coley since May 31st, 1894. He has treated twenty-four cases of malignant tumors, all inoperable, and mostly recurrent, with the mixed toxins. Of these cases thirteen were sarcoma and eleven carcinoma. In many of these cases of carcinoma, the injection had a retarding influence, and in some of the cases the improvement was extraordinary, but in no case did the tumor entirely disappear. In sarcoma the effect was more marked, the controlling influence of the toxins being demonstrated thoroughly. In three of the thirteen cases the sarcomas have entirely disappeared. Of his total of

thirty-eight cases of inoperable sarcoma, nine cases promise to be permanently successful.

The treatment of inoperable, malignant tumors by bacterial injections in the hands of Prof. Thiersch of Leipzig, according to the methods recommended by Coley are in general unsatisfactory. He treated thirteen cases of real epithelial carcinoma, and four cases of sarcoma. In the cases of carcinoma there were many improvements, but no such thing as an anatomical cure. In the sarcoma the ultimate results were not changed by the treatment.

Darrier in *Le Med. Mod.*, France, found good results in methyl-blue in ulcerating cancers. He first cauterizes all the ulcerated surface, then applies chromic acid, then uses a solution of the blue, one to one hundred.

CANCER OF THE TONGUE.

In a cancer of the tongue Mr. Bultin has removed the whole or half of the tongue in forty-six consecutive cases with only one death, by Whitehead's method.—*British Medical Journal*.

He attributes his success to his careful after-treatment in preventing the ingress of food and unhealthy discharges into the trachea, thus preventing pneumonia. The patient's head is kept low and lying on the side. The patient is fed through a feeder with a spout with three or four inches of rubber tubing and by rectum.

DEODORIZER FOR IODOFORM.

The oil of turpentine causes this strong odor to disappear from anything with which this antiseptic has come in contact. The hands may be first washed in water to which some turpentine has been added, and afterwards in soap and water and it will be found that the odor will entirely disappear.

Dr. P. Rosenberg of Berlin advises the use of a little cocaine in the nares before administering ether or chloroform, claiming that the action of cocaine lessens the danger of ether or chloroform, acting as a direct antidote.

ANESTHETICS.

E. P. FLINT, M.D.,

ROCKVILLE.

It seems especially appropriate that this subject should be presented for consideration at this annual meeting of our Society as, ere the close of 1896, fifty years will have passed since the first surgical operation was performed with the patient rendered unconscious and insensible to pain through the administration of one of these agents.

Again, the subject invites our attention particularly, because the names of two Connecticut men, one for many years a prominent member of our profession, the other a dentist, have become intimately connected with the history of the discovery, development and utilization of our two most important anesthetics, ether and chloroform.

It will not be without interest, on this semi-centennial anniversary of their original use, to review the history of the introduction of these agents, which wrought such a change, yes, revolution, in the surgeon's work.

Their use has become so universal, and their characteristic effects on the human organism so familiar, even to the rank and file of the profession, that we rarely consider, and can only with difficulty imagine, the untold agony which our ancestors experienced when subjected to the surgeon's knife.

We can well believe that the suffering caused by the crushed and mangled limb, the comminuted fractures, the lancinating and sickening pain of the malignant tumor, was overshadowed by the terrible dread of the operation that was to follow. But all this was to be changed, mankind mercifully relieved of the most horrible suffering, the operating-table to become a couch for peaceful sleep, and the surgeon, untrammelled and unin-

interrupted by either the intentional or involuntary motions of his patient, was to perform operations of a magnitude and severity as yet undreamed of, and the most delicate work of which his skilfully guided knife was capable, could be performed with the utmost deliberation and care.

Although much controversy has been engaged in regarding the discovery of anesthesia, and a relative amount of doubt arisen, yet its history, as accepted at the present time, may be considered as tolerably well established.

Various means are mentioned as having been tried, for the prevention of pain during surgical operations, from very remote times, some even as far back as the time of the Roman Empire. Perhaps the most striking of these is that mentioned in the writings of Theodoric near the close of the thirteenth century, especially as it indicates the approach to the use of the anesthetics of the present time. He suggests saturating a sponge with a liquid extract of certain anodynes, such as opium, henbane, hemlock, etc., immersing it in tepid water for an hour, then applying it to the nose until sleep was produced, when the operation was performed. After the operation, a sponge saturated with vinegar was used in place of the "*spongia somnifera*" to awaken the patient.

If this did not arouse him, the nostrils were injected with the juice of funegreek root. Extract of *cannabis indica* has been used for the same purpose, in India, from time immemorial.

Some time during the latter part of the last century, a Mr. Moore of London invented an instrument resembling somewhat a tourniquet, for the purpose of compressing the principal nerves and thus, to a degree, preventing pain, particularly in amputations. It was used quite successfully in a case of amputation below the knee, but being uncertain in its effect, its use was abandoned. Again, in 1819 another London surgeon practiced copious venesection with the same object, and reported several

cases in which he employed it quite successfully. Later, the administration of full doses of the various preparations of opium, was practiced by many, among them the late Professor S. D. Gross of Philadelphia. He followed it for many years previous to the discovery of anesthetics. He says: "I generally preferred morphia to laudanum or opium in substance, and always gave it in full doses, either alone, or, when the patient was strong and plethoric, combined with a moderate quantity of tartrate of antimony and potassium, with a view of inducing a greater degree of relaxation and insensibility. I became very fond of the practice, and never, so far as I could determine, experienced any bad effects from it. On the contrary I know it was commonly productive of great benefit, not only blunting sensibility but preventing sharp, and consequently severe, reaction."

This brings us to the discovery of our modern anesthetics. In 1800, Sir Humphrey Davy wrote of nitrous oxid that it "seems capable of destroying physical pain" and "it may probably be used with advantage during surgical operations in which no great loss of blood takes place." But although this property of "laughing-gas" was generally understood and the gas frequently inhaled as an amusement, nothing practical resulted, until on Dec. 11, 1844, Horace Wells, a Hartford dentist, caused the agent to be administered to himself, and had a tooth extracted without pain. Flushed with his success, he extracted a tooth in the presence of the medical faculty and students of Harvard University, but owing to defective apparatus for the gas, it was only a partial success, and the ridicule which followed so wrought upon his sensitive temperament that, though he had used the anesthetic on several of his patients with success, he committed suicide.

However, his efforts finally bore fruit, for it was through the agency of Morton, a student of Wells, that sulphuric ether as an anesthetic, was brought prominently to the notice of the medical profession. True, the

method of making ether was described by Valerius Cordus in 1540 and its discovery dates further back, being lost in the obscurity of the past. In 1730, Frobenius gave it its name, and in 1795 "Richard Pearson employed the vapor of ether in allaying pulmonary distress." Like nitrous oxid it was used for amusement, and in 1842 Dr. Long of Georgia administered it to a patient, and performed an operation successfully. But it was left to the student of Wells to place before the world, at the Massachusetts General Hospital, the first practical example of the utility of ether in surgical work.

Chloroform was discovered by Samuel Guthrie of Sackett's Harbor, New York, in 1831. In 1832, Prof. Ives of New Haven employed it to relieve pulmonary spasm, and in 1847 Simpson of Edinburgh published his success with this agent. It rapidly came into almost universal use except in the cities of Boston, Lyons and Naples, and so continued for some fifteen or twenty years, when from the relatively greater amount of care needed to insure against accidents in the use of chloroform, ether came gradually into more general use.

In New England ether is almost the only general anesthetic used. Its use predominates in the Northern and Western States, while chloroform is mostly administered in the South. In the hospitals of Great Britain the practice is divided almost equally between ether, chloroform and mixtures; in private practice chloroform predominates, while in France and Germany, except in Lyons and Vienna, chloroform is almost the sole anesthetic.

As regards the relative merits of the two agents, there is much diversity of opinion. As a rule, chloroform is much less unpleasant to patients than ether.

It acts more quickly and with less subsequent disturbance of the stomach and nervous system. The quantity required is much less than of ether, one dram, if properly used, being as much as is necessary in almost every case, to produce complete anesthesia. Ether is relatively slow in its effect, is often irritating to the bronchial tract, and

has many times caused a rapidly fatal suffocative catarrh in old people. It is more apt to cause struggling and resistance, and is highly inflammable, the vapor having been known to ignite at a distance of fifteen feet. On the other hand there certainly is need of greater precaution in the administration of chloroform and there have been more deaths in the aggregate from its use than from ether.

This difference may be only relative as chloroform was in almost universal use throughout the civilized world, for many years before the dangers of anesthesia had become fully comprehended, and measures to avoid them thoroughly understood; while Nussbaum of Munich has seen 40,000 administrations of chloroform, and Hunter McGuire 28,000 in the Confederate army, with not one case fatal.

Dr. Geo. A. Otis states that out of over 120,000 cases during the last war, there were only eight cases fatal that could fairly be attributed to its use. Thus the experience of many leading surgeons like Nussbaum and Gross proves that many of the fatal cases from chloroform are due, not to the agent, but to its faulty administration.

While I believe that this statement will also apply to the use of ether, yet it is plainly evident that much more carelessness can be indulged in in its use, without serious results.

The lightning-like trolley car has certainly been responsible for more deaths than the lumbering stage coach; yet this difference is really only relative—for the car-driver, running his swift and pleasant vehicle at half the usual speed, with eyes keen and perceptions alert, could far outstrip the coach-driver and yet continue almost immune from accidents.

Other known general anesthetics such as bichloride of methylene and bromide of ethyl have undesirable properties and none have ever been much used.

Local anesthetics demand at least brief mention. Of these cocaine leads far in the van of all. Since its won-

derful powers were made known by Koller of Vienna in 1885, it has become universally known and used. It, too, has its dangerous properties, must be used with care and its use is necessarily restricted to minor operations. A four per cent. solution is most commonly used, though much weaker dilutions are found to produce anesthesia. This is the case with one-fifth solution; also the same results have been obtained with solutions of sugar and bromide of potassium in three per cent. morphine, in one-tenth per cent. caffeine, in two per cent. carbolic acid on one-fifth to one per cent. solutions and also with pure distilled water, though the anesthesia is strictly confined to the tissue infiltrated by the injected liquid and is caused simply by pressure.

In conclusion,—while the value of ether, chloroform and cocaine as anesthetics is acknowledged both by the profession and the laity, and their use accepted as legitimate, we are bound by the honor, and in the interest of our profession, to practice an “eternal vigilance” to guard against accident, as we and our patients reap the benefits of these beneficent agents in obstetric and surgical practice.

In the use of either ether or chloroform, its administration should be either suspended or modified as soon as the required degree of anesthesia is reached, and the condition of the patient carefully watched, either by a reliable assistant or the surgeon himself.

Chloroform should be used only in cases where complete anesthesia is not required or for only a few moments, and where ether, from its injurious effects, is contraindicated, as in patients having Bright's disease, irritable bronchi, etc. No apparatus should be used in the administration of chloroform, a few minims being dropped upon one or two layers of light muslin and held near but never against the patient's nose. Thus the countenance can be watched at all times and the danger of an overdose avoided. Old age, and infancy, valvular and fatty disease of the heart are no contraindications to

anesthetics properly used; indeed, it is difficult to find a diseased physical condition in which, at some time, an anesthetic has not been used in a similar case.

While these powerful agents, like aconite, morphine and belladonna, may be made potent for evil, like the steam and electric cars they have become a necessity to civilization, the beneficent effects of which cannot be estimated.

CASTRATION FOR THE PURPOSE OF SECURING ATROPHY OF ENLARGED PROSTATE.—RE- PORT OF A CASE.

F. A. RICE, M.D.,

BRIDGEPORT.

Hon. George W. H., of Ithaca, N. Y., a college-bred man of refinement and rare intellectual attainments, and a brother of a former Governor of this State (Connecticut), is eighty-six years old, (probably the oldest man on whom this operation has been done), but is an unusual case of deferred senility. He is healthier and more vigorous than the average man at seventy, though having always been a man of slight physique. He was not, therefore, as unfavorable a case for operation as his extreme age would indicate.

The hypertrophy of the prostate began about thirty years ago, and was discovered about that time during an examination by the late Dr. Willard Parker of New York City. Its size at that time was that of a large hickory nut.

During the first ten years he did not suffer any great trouble or inconvenience from it, but for twenty years he has had to endure the usual results of this malady, gradually and steadily increasing as the gland grew.

At the time of the operation it had reached the size of a large hen's egg, the left lobe being much larger than the right, so that the catheter was markedly deflected to the right as it passed through the prostatic urethra. The functions of the bladder were very much interfered with, and the pressure on the rectum has, for several years, made defecation without artificial aid impossible except when the movements were quite loose.

Natural urination has also been impossible for a long time.

He has, for many years, made a study of his condition and read all of the medical literature on this subject that he could get access to, the result of this being that he has taken such intelligent care of himself, especially in avoiding the dangerous effects of the decomposition of retained urine, by thoroughly emptying the bladder with the catheter, and by irrigating the bladder every day, that he has reduced the sufferings and dangers of this affection to a minimum, and his general health has not been noticeably reduced by it.

A short time ago, he read of the castration treatment introduced by Dr. White, of Philadelphia.

It is naturally a cause of some wonder that a man who can reasonably expect so few years more of life should want such a radical and, as yet, such an experimental, operation. His explanation was that he wanted to benefit science more than himself, so he made his will and came to Bridgeport.

Though I advised against it, he insisted, and on June twenty-fifth, 1895, he parted joyfully with what most men hold so dear.

Dr. Fessenden L. Day, of Bridgeport, assisted me in the operation, which requires no further description than that cocaine anesthesia was used with perfectly satisfactory results.

The wounds healed promptly without any bad symptoms whatever. He was confined to bed only three days.

The first report from him came in a letter dated October second, 1895, which is so full and clear that I will quote it entire:

"It is now a few days over three months since the operation was performed, and I know you will be glad to learn that the gland has diminished in size to this extent:

"When I left you it was difficult to pass a small catheter, (No. 1), and after it was inserted it required the exercise of considerable strength to withdraw it.

"I could discharge no urine voluntarily, the feces were removed only with artificial aid, there was considerable

sharp irritation on entering the catheter, and my strength was quite reduced. Improvement went on gradually but surely during my pleasant outing through Connecticut up to York Beach in Maine; then back through Boston, to Springfield, where I attended the meeting of the American Scientific Association for ten days, then to Lakeville, thence to New York city, thence home. And now I am much stronger, have a ravenous appetite, sleep well, and most of the time am in a singing mood. The gland is smaller so that I use a catheter two sizes larger, (No. 9), without irritation, and can discharge from half a pint to a pint of urine voluntarily. The feces are easily extruded without artificial aid. The urine is natural and free from mucus. I think we may consider this report very favorable."

I think we can agree with the patient in this, and I hope at a future meeting to be able to report a continuance of his improvement.

AMPUTATION AT THE HIP JOINT, WITH CASE, BY WYETH'S BLOODLESS METHOD.

JOHN MITCHELL BENEDICT, M.D.,

WATERBURY.

As far back as four hundred years B. C., amputations were mentioned by medical writers of that period, but at that time and for nearly two thousand years afterwards, they were almost, if not entirely restricted to the removal of gangrenous tissues. This, as one writer remarks, was probably largely due to the helplessness of surgeons of ancient time to cope with profuse hemorrhage.

The advice of the writers of the early days was, that in amputation, no living part should be touched. Even after the use of the ligature had been taught by Paré, in the middle of the sixteenth century, and the tourniquet or grip-stick had come into use in the latter part of the century, did the operation for amputation advance very rapidly. And it was not until 1738 that amputation at the coxofemoral articulation was seriously considered. It was originated by Morand and two of his pupils, Volker and Puthod, and they performed it only upon the cadaver. One year later, Le Drau taught it in his practical course and reported upon its feasibility to the French Academy.

In 1740 Ravaton was prevented from performing the operation upon a patient by the objections of consulting surgeons. What is considered the first amputation at the hip-joint occurred in 1748 and was performed at the hospital of Orleans, by the surgeon in attendance, Lacroix, and was of about the same nature of an operation as was suggested by Hippocrates for the lesser amputations, 400 B. C., and consisted simply of dividing the ligamentum teres and the sciatic nerve of a leg, that of a boy of fourteen who had been attacked by gangrene.

The other leg was in similar condition, and was amputated four days later by simply sawing through the bone at the great trochanter, the soft parts having sloughed away, the result of eating smutty rye. The patient died eleven days after the second operation.

In 1773 Perault amputated at the hip-joint, a leg that had been crushed between the pole of a carriage and a wall, and had become gangrenous. The patient recovered after eighteen months, and twenty years after was in good condition.

The first amputation at the hip through living tissue was done by Henry Thompson, surgeon to the London Hospital, about 1777, the horridness of which provoked Mr. Percival Pott's denunciation of the procedure in his remarks on amputation, written about this time.

In 1778 Mr. Kerr of Northhampton, amputated at the hip in the case of a girl of eleven years, who was suffering from phthisis and an advanced hip-disease.

In 1793 Baron Larrey did the first hip-amputation in military practice, the patient being a French soldier of the Army of the Rhine.

In 1794 Blandin performed the operation three times, one of which was said to be successful, but it is doubted by many.

Brownrigg in 1811 was the first English surgeon to do the operation in military practice and the following year did what has been considered the first successful hip-joint amputation in military surgery.

The first operation done in this country was performed by Walter Brashear. His own description of the operation would perhaps be of interest. I append a letter written to Dr. Townsend.

Philadelphia, August 13, 1846.

MY DEAR SIR:

In conformity to promise, I now give a brief statement of the operation which I performed in Bradstown, Ky., in August, 1806. The subject was a boy of seventeen years of age. Without assigning the cause which led to the

necessity of the operation, the same was, after consultation with Drs. Harrison and Goodlet, conducted in manner following, first premising that in absence of any knowledge of an established mode for this operation, a common sense reasoning as to its safety and feasibility alone dictated the manner of performing it. Therefore an operation of the thigh in the ordinary manner was determined on, as remote from the hip-joint as circumstances would justify (in this case about the middle thigh). The amputation was performed and the arteries secured. The next step was to make an incision to and from the lower end of the bone externally, over the great trochanter to the head of the bone and upper part of socket. The dissection of the bone from the surrounding muscles was simple and safe by keeping the edge of the knife resting against the bone. The bone being disengaged from its integuments at its lower extremity, was then turned at a right angle from the body, so as to give every facility in the operation to separate the capsular ligament, and remove the head from the socket. After the operation nothing more than ordinary dressings were used and in the course of a short time the patient was removed to St. Louis where he was living within a few years past. I am,

Very respectfully,

WALTER BRASHEAR.

Of all the cases found recorded of the operation three quarters of them have been made since the introduction of anesthetics, and fully two-thirds of the operations have been performed later than 1860. Up to 1875, four hundred and ninety-seven had been collected. In 1881, Ashurst had tabulated six hundred and thirty-three; of these six hundred and thirty-three amputations for all causes, the mortality was 64.1 per cent. or three hundred and ninety-three died. Dividing these into classes he found that of two hundred and thirty-eight cases of amputation in military practice two hundred and seven or 87.3 per cent. died. Of seventy-one for injuries in civil

practice, forty-seven or 66.1 per cent. died. Of two hundred and seventy-six cases of disease one hundred and five or 40.2 per cent. died.

One prominent writer begins an article on hip-joint amputations with these words, "The removal of the lower limb at the coxofemoral articulation may be properly regarded as the gravest operation which the surgeon is ever called upon to perform, and it is only within a comparatively recent period that it has been accepted as a justifiable procedure."

The question of supreme moment in amputations at the hip-joint, is that which pertains to complete yet safe methods of controlling the circulation during the operation. Its importance becomes manifest from the fact that five per cent. of the patients operated upon do not survive the operation, and seventy-one per cent. of the deaths occur during the first five days, so that every possible means should be used, not only to guard against hemorrhages but to save all the blood possible from the limb to be removed, for a few jets from the femoral artery will reduce any patient to a state, from which he is not likely to rally.

Various methods have been devised for the control of hemorrhage. Larrey directed that the artery should be tied in the groin before beginning the operation. The objection to this method is that there is greater danger from secondary hemorrhage.

About 1860 Pancoast first called attention to the practicability of compressing the abdominal aorta against the vertebral column by an abdominal tourniquet, and since that time a number of instruments of this nature have been devised and have been used to considerable extent. Some object to its use on the ground that too long pressure on the abdominal aorta is injurious and interferes with respiration and does injury to the nervous structures.

Dr. Woodbury of Philadelphia and Prof. Van Buren of New York at about the same time suggested that the

circulation be controlled by compressing the iliac artery against the pelvic bone, by the hand of an assistant introduced into the rectum. Mr. Davy of London for this same purpose used a lever which he introduced into the rectum. A number of operations have been reported as done very successfully by this method, but in one case in which this was used, death resulted from a rent in the rectum, but of forty cases in which this method was used sixty-five per cent. recovered.

In 1876, Trendelenberg devised a steel rod, fifteen inches long, one-quarter inch wide and one-eighth inch thick, with a removable point attachment, which is to be pushed through the soft parts in front of the joint an inch above the point where transfixion is to be made with the knife. The rod is pushed through the soft parts, the point removed and a rubber tube passed around the protruding ends in figure of eight turns. In this way a flap can be made without loss of blood. After the vessels in the anterior flap have been secured the rod can be used in the same manner for the posterior. This method has been successfully used.

Ashurst relates a case of an operation thirty years ago in which a strong acupuncture pin was passed below the femoral vessel and was reinforced by the pressure of the thumbs of an assistant, who held the ends of the pin in either hand and compressed the artery directly upon it. At the most critical moment the pin broke and though the operator skilfully caught the vessel in the flap, so much blood was lost that the patient never rallied.

Jordon suggested a method which consisted of beginning the operation as for excision of the head of the femur. After disarticulation the shaft was dissected through a longitudinal incision on the outer side of the limb, and the soft tissues were constricted by means of an elastic band. This method has been modified by Prof. Semm of Chicago, who perforated the tissues on the muscle of the leg, introducing a double elastic tube tying one part on the

anterior, crossing the other posteriorly and finally bringing it around the whole limb and securing it in front.

Prof. Emory Lanphear of Kansas City, who has four times amputated at the hip by this method, says: "This (Senn's) operation is certainly better than any other yet devised save that which is known as Wyeth's Bloodless Method, by which method, failure to control hemorrhage seems to be impossible."

In 1888, Dr. Wyeth of New York, removed from a patient, suffering from a large sarcoma of the upper end of the humerus, the outer half of the clavicle, the glenoid cavity, acromion and coracoid processes, part of the body of the scapula with the upper extremity, controlling the hemorrhage by means of a rubber-tube carried around the shoulder several times and held from slipping by two stout mattrass needles passed through the soft tissues. This suggested to him the operation at the hip-joint, what is now known as Wyeth's Bloodless Method, and which he successfully put into practice in 1890.

This method is now, I think, regarded by most surgeons as the simplest and surest of any yet tried for the control of hemorrhage at the hip-joint. It evidently does what its author claims for it, viz., the absolute occlusion of every vessel at the level of the hip-joint, safely above the field of operation.

Ashurst in his supplement to the International Encyclopedia, says, "Wyeth's Bloodless Method seems to me to merit all the encomiums which have been bestowed upon it." Its use has certainly much reduced the mortality of hip-joint amputations. Forty-two cases in which it has been employed, having given thirty-three recoveries and only nine deaths, a mortality rate of only 21.4 per cent. which, even allowing a considerable discount for unsuccessful cases which may not have been reported shows a decided improvement over previous statistics.

Case 1. George B., French Canadian wood-worker, fifty years old, thirty-four years ago fell from a building, one story, sustaining an injury to the left leg. No bones were broken and, as he says, only a scratch on the outside

of the leg. This leg became very much swollen and he was laid up with it for one year and recovered with a stiff knee-joint. For fifteen years following he experienced no trouble from it, aside from the inconvenience of the stiff joint. After this time it again began to swell (without any apparent cause that I could learn). This continued for about one year and a half, with considerable discharge of pus. Most of this time, a number of small pieces of bone were removed by a surgeon. The leg healed again and gave no farther serious trouble for a period of about eight years, when it again began to be troublesome and to suppurate.

I first saw the case in consultation in October, 1893. It was at that time very much swollen, particularly about the knee and was discharging pus freely from a number of sinusses. At that time I advised an exploratory operation, being unable to determine fully the extent of the trouble. This was declined at that time. In February, 27, 1894, during my term of service at the Waterbury Hospital, he was admitted to that institution by advice of the town doctor. An examination was made without an anesthetic and almost the entire limb from a little below the knee was found to be involved. The bone at the knee had given way or fractured, forming a false joint and the leg was entirely useless.

It was decided that an amputation was the only means of relief, and as there was not sufficient healthy tissue farther down to form flaps, amputation at the hip-joint was decided upon.

On March second, the fourth day after he was admitted, the operation was performed. The leg was cleansed as thoroughly as possible under the circumstances.

In this case owing to the condition of the limb, Esmarch bandage was not used, a proceeding which is usually recommended when the condition of the parts will warrant it, in order to save all the blood possible.

The mattress needles were introduced, one, one inch below the anterior superior spine of the ilium, and a lit-

tle to the inside of this point, superficially through the muscle and fascia on the outside of the hip, coming out about three inches from the point of entrance and at the same level. The second needle was introduced about one inch below the line of the crotch internal to the saphenous opening, passing through the abductor muscles, coming out one inch below the tuberischii, corks were placed upon the points to protect the hands of the operator, the limb was elevated to allow as much of the blood as possible to flow out, and an elastic tourniquet applied above the needles. A circular incision was made through the skin, subcutaneous tissue and fascia to the muscles, a longitudinal incision was made about six inches in length upward from this, the flap was dissected up about three inches, and the muscles divided down to the bone. In this case the bone was sawed through to remove the leg on account of its condition, though it was advised to allow the leg to remain in order to assist in the disarticulation of the joint. The vessels were then secured. Some difficulty was experienced in this case in dissecting out the bone on account of the results of previous inflammatory processes and hardening of tissues, so that the tourniquet was removed before disarticulation; this was very easily accomplished by elevating, abducting and adducting the limb, the capsule cut about and the ligamentum teres severed. The stump was carefully cleansed, a drainage-tube inserted and the wound sutured and dressed in the ordinary way with iodoform and sublimate gauze and bandaged.

The loss of blood except that from the severed limb was practically none. The shock was not excessive as a reference to the chart will show.

The first dressing was done three days afterwards; a part of the wound had united by first intention. Some parts showed a slight tendency to suppurate. The drainage-tube was removed in one week, and the progress of the case was favorable throughout and he was discharged from the hospital May twelfth. At this time there was

one sinus that had not entirely healed. He made one call at my office when I feared that possibly the disease had reached the pelvic bones. This sinus at that time was scraped out as well as possible without an anesthetic being administered and when I saw him next it had entirely healed.

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REMARKS CONCERNING APPENDICITIS.

CHARLES E. TAFT, M.D., COUNTY REPORTER,

HARTFORD.

While thinking over the topics which are of universal interest and which are to be considered under the head of a county report, it suggested itself to me that we could still very profitably talk over the old and hackneyed subject of appendicitis. It further seemed to me that reports from the members would not throw light upon all the particular points I wish to bring out as well as a general discussion; so, at the risk of altering a time-honored custom, and one I must admit an infernal nuisance, I have concluded instead to vary this method by suggesting several topics connected with this disease which it might be well for us to discuss.

In view of the exhaustive monographs written on this subject, it would be foolish, in the brief time allotted to me, to try and cover the whole subject, but rather to lay stress upon some particular points.

As regards the matter of prophylaxis, when we come to consider that fecal concretions are found present as causes in at least fifty per cent. of all cases operated on, I do not think that we, as family physicians, quite do our duty unless we lay a great deal of stress on the evil of constipation; for I firmly believe that this alone and in combination with fermentation in the colon, is responsible, directly or indirectly, for the vast majority of cases of appendicitis. It would, therefore, seem to me that we are quite justified in holding forth this possibility to such of our patients as are careless in regard to this matter of irregularity, and who are inclined to over-eat or indulge in easily fermentable food. There is no doubt but that in the relapsing cases particularly, the latter causes—over-eating and indulging in fermentable food—

are almost the only factors which can bring on a recurrence.

While perhaps the majority of cases of this disease occur in young people, and, according to some authorities, in the male sex—facts which would certainly not seem to bear out our theory, inasmuch as women are notoriously more constipated than men and old people more so than young people—yet here I believe figures are misleading, inasmuch as surgeons and physicians are more universally reporting this a cause, some even going so far as to state that it is the sole cause. I will say here that in attributing appendicitis to constipation I realize in many cases this may be remote, the enteroliths being the immediate cause by irritation. It is also evident that attacks are sometimes induced by an injury, and also, rarely, by tuberculosis.

Another point I wish to bring out is the uncertainty of the McBurney point in diagnosis. It is already becoming apparent to many that we have been placing too much reliance on this as a diagnostic point, it being common for many surgeons to regard it when present as a positive indication of an inflamed appendix. To illustrate how deceptive this may be, I will briefly mention a case similar to several I have seen, which seemed to be unquestionably a case of this disease, and where this sign was most marked. The patient, a woman about thirty, with a previous history of constipation, was taken sick two days before she was seen by me, with very sharp pains in the right side and tenderness over the whole abdomen, particularly marked over the McBurney point. Her temperature rose rapidly, soon reaching 103° . She had quite a good deal of colicky pain in the right side, spreading over the whole abdomen. When first seen by me, there was very marked tenderness, localized in the right iliac fossa, but apparently no exudation thrown out by the peritoneum, as indicated by dullness or tumor formation. I saw her again the next morning and all the symptoms were much aggravated. Please bear in mind that her

symptoms—that is, the rising temperature, the tenderness most marked over the McBurney point, the intense pain, sudden in its onset—had persisted for twenty-four hours under my observation, and her sickness was already of two days' duration. She was seen again at noon and again at night, when the operation of laparotomy was performed. In the meantime a significant change had taken place. The point of tenderness, while fully as marked, had shifted up the colon nearly three inches. There was still, by the way, no tumor present, although the rigidity of the abdominal muscles was quite marked. This change in the location of the tender point was explained by those present by the probable extension of the localized peritonitis. To cut this story short, the appendix was found to be non-adherent and quite long. There were no suggestions of peritonitis present, localized or otherwise. Inasmuch as it then seemed probable, in spite of the normal appearance of the appendix, that a catarrhal condition of its mucous membrane was present, it was deemed advisable by all present to remove it. This was accordingly done. The patient made a quick recovery. I might remark here that her bowels were thoroughly moved, both before and after the operation. Careful examination of the appendix subsequently failed to show any trace of inflammation, and we were forced to make a revised diagnosis of a stercoral typhlitis, or caecitis, caused by an impaction of feces, and attended by a most intense appendicular colic. Since then, and for that matter, previously, I have seen several other cases presenting similar and equally apparent and positive signs, particularly as regards the McBurney point, but where the latter shifted decidedly in twelve to twenty-four hours, and where the laparotomy developed nothing abnormal as regards the condition of the appendix. In fact, in these cases which I refer to, the diagnosis had been so positively made that it occasioned great surprise when the abdomen was opened, at the entire absence of any pathological condition whatsoever of this organ. In view

of the outcome in these cases I have been so impressed with the possibility of attaching too much importance to the McBurney point that I pay very little attention to it, unless all the other characteristic signs are present, and even then I regard it of little value unless it remains stationary for many hours.

In connection with these views on this point it seems to me that the time has come to make a more careful differential diagnosis between a stercoral typhlitis and appendicitis, or peri-appendicitis. It has been often stated that for all practical purposes this could be ignored, for in a large proportion of the former cases inflammation of the appendix was present or would develop. From my own observation and interviews with various surgeons, I think that this is too radical ground to take, and that after the experience we have had in the last few years as a result of laparotomies performed, we can make much more exact diagnosis in most cases.

With a stercoral caecitis, as a rule the pain is less sharp and cutting, the temperature is slightly lower, and the tenderness is distributed over a relatively larger area, particularly in the early stages of the two conditions. Moreover this tenderness is, as I have already indicated, quite liable to shift its position upward and under the ribs, and the outline of the tumor, if present, will not be so sharply defined. The tender area outlining this tumor will, as a rule, be lower down in the flank, as the patient lies on the back; it not being so very different from that of a perinephritic abscess in its early stages. Of course it is unnecessary to state that if all the symptoms of localized or general peritonitis are associated with these conditions as a result of a perforation, that the cause should be ignored and the case treated as one of appendicitis. It may be said that after all, such a refinement in diagnosis is unnecessary, since the performance of laparotomy in such a case for the removal of the appendix is a slight operation and does not matter very much, as the latter is a useless organ any way, and might as well

be out as in the body. I have often heard just such statements made as this, but I am afraid we can hardly endorse them, for I have myself personal knowledge of two just such cases where the patients died as a result of the intense enteritis and colitis set up and aggravated by the operation. The danger of obstruction of the bowels due to adhesions of the intestines or omentum to the stump of the amputated appendix, is certainly real and not so very infrequent. It alone ought in my judgment to forbid the removal of the appendix unless we find it diseased. No, I think that in the absence of the necessity for an emergency operation on account of a perforation, for I am now speaking of a typhlitis alone, or an exploratory incision to establish a doubtful diagnosis, our duty should be to first relieve the impaction by high enemata and then to allay all soreness over the caecum by hot applications, rest and anodynes. It might also be profitable for us to consider more elaborately the differential diagnosis of other diseases, many of which we have all seen mistaken for cases of appendicitis. I have personally seen cases of renal colic located on the right side, which at first were very blind and difficult to differentiate from appendicitis. The presence of a moderate temperature from the presence of the inflamed ureter and the kidney, a moderate amount of tenderness, with intense pain in the region of the appendix, have been the complications which have been misleading. A little time, with careful analysis of the symptoms, have usually sufficed to make the condition present readily explainable.

While at first sight it would not be supposed that a typhoid case in the early stages could mislead one so much as to suggest an appendicitis, yet that mistake is constantly made. Indeed, I have personally seen it made and, if I am rightly informed, such cases have been operated upon, even by able surgeons. I do not refer to cases of typhoid complicated later in the disease by an ulceration and perforation of the appendix, but to the first week of the disease, when tenderness and pain are present in

the right iliac fossa. Certain other diseases, such as intussusception and obstruction of the bowels from various causes, cannot be positively differentiated without an exploratory incision, and it would be foolish to consider any other alternative.

A neuralgia of the side is not uncommonly mistaken for a diseased condition of this organ, particularly by those operators who remove the appendix for slight, so-called, attacks which they have not personally attended. Unless some of our physicians with whom I have discussed this subject are mistaken, it is in just these cases of neuralgia that the physician has told the patient that the appendix could be plainly felt to be diseased through several inches of ment abdominal wall.

In women, most of the acute inflammatory conditions of the tubes or ovaries, tubal pregnancy, hematocele, etc., can give rise to such symptoms that great uncertainty as to the condition present may exist, but if a careful bi-manual examination is made under ether, it would hardly seem possible that any great error in diagnosis could arise, except in rare instances; yet I believe that most of us have seen these very questions come up in such a way that they were only settled by an exploratory incision. Cases of entero colitis, or acnte dysentery, have worried some practitioners not a little, as regards the diagnosis in the early stages, but certainly ought not to mislead any one as the disease progresses. In short the necessity of sound pathological knowledge as to possible conditions which may be present and which may be mistaken for disease of the appendix, must be more and more apparent to the worker in this fascinating field of surgery.

Another point I wish to allude to, and I would like to hear it discussed, as I believe it to be one of the most vital questions to be considered in the treatment of the early stages of this disease, is the use of laxatives, saline or otherwise, by the mouth. I am quite well aware that this point has already been fully considered by many

prominent surgeons, and that many months ago, particularly by Dr. Morris Richardson, of Boston, who has been most emphatic in his protests against such practice; but, inasmuch as I believe it to be the general rule of most practitioners to make free use of saline laxatives in this disease, I think it quite proper to request that it be fully discussed. My own experience has been directly opposite to that of most of the gentlemen in the Society, and my position has been taken only after having seen the bad effects of salines in several of many cases in the last few years. One of these cases I will briefly relate the history of.

The patient, a young man, had been quite constipated, and a day or two before I saw him was suddenly seized with very sharp cutting pain in the right side, together with severe pains similar to those of wind colic, the latter extending over the whole abdomen. His temperature was not over 99.5° by the mouth, and 100° by the rectum. Examination showed him to be somewhat tender over the whole course of the colon, but particularly so over the appendix. He was ordered salines and salt enemata, with poultices over the abdomen. The pain was so severe that morphine had to be given occasionally. During the course of the next two days his temperature dropped to normal and the pain and soreness were greatly diminished. In the meantime salines were administered daily, so that his bowels moved freely. He was seen by me again in consultation five days afterwards on account of renewal of the severe pain and tenderness in the right side and on account of a slight swelling that was forming there. His temperature had commenced to rise again, and had reached 102° . It being evident that a perforation, followed by a localized peritonitis had occurred, I advised an immediate operation. Opening down onto the tumor, which had attained the size of a flattened orange, permitted a quantity of offensive pus, mixed with fecal matter, to escape. On washing out the sac and cleansing up the cavity, an ulceration through the side wall of the caecum

about the size of a cent piece was revealed. The appendix lay below and was apparently normal. The cavity was packed with gauze and the patient made a steady recovery. On removing, five days later, the iodoformed gauze, which had been carefully packed about the ulceration, the latter was found to have entirely closed, so that no fecal matter or gas escaped. This was certainly the most rapid healing of an ulceration I have seen or heard of, and is extremely suggestive of the proper method of dealing with this complication. Now here we had an impaction of fecal matter in the caecum, a colitis followed by an ulceration, and, as I most firmly believe, a perforation of the ulcer induced largely by an irritating cathartic. It would undoubtedly have been safer to have unloaded the colon by high injections of sweet-oil, followed by saline enemata, and to have refrained from the use of laxatives by the mouth. This plan I have followed since, without any bad results.

I have now seen personally in my own practice and in consultation, six cases that I can now recall, where the action of saline cathartics had been resorted to and a subsequent perforation, with escape of fecal matter, had followed. Three of these died—one within twelve hours and two within a few days—all of septic peritonitis. A laparotomy was done on all of these patients.

Each one of these cases has made it more and more evident to me that we run a considerable risk in such use of saline, a fatal perforation being by no means a rare accident, as Dr. Morris Richardson, Dr. Osler and other prominent men assure us. It certainly seems to me that the old treatment of rest, opium and hot applications forms the safest method we have as yet in the early stages of the disease, when it does not seem expedient to operate. To be sure, it is fair to admit that while opium does quiet peristalsis, a condition, by the way, which many of us believe we ought to strive for, it may cause a troublesome degree of tympanitis, and it may under certain conditions mask bad symptoms and mislead us; but, granting all

this, I believe that there is far less danger from its use than there is from the use of the cathartic by the mouth. Osler, the physician, endorses these views most emphatically, and Richardson, the surgeon, says that he is afraid to use any other. Are we not possibly too bold in the reckless way we shovel in medicine by the mouth, perhaps only to unload the contents of the intestine into the peritoneal cavity?

Just a word about the propriety of an operation. Without relating cases to justify this position, it would seem to me that when we are positive as to the presence of an inflamed appendix, or of a perforation of it, or of the caecum, that we should open the abdomen and remove the source of trouble if possible. The percentage of cases which get well without an operation, large though they may be, does not offset those cases of perforation which would be followed by a fatal peritonitis, unless speedily operated on. It is just because we are not able to tell with any certainty whatever as to whether we have to do with a threatened perforation or one actually present, or whether the case may not ultimately result in one, that makes it unsafe to trust to nature. The percentage of the milder cases dying from the operation is nothing compared to the percentage of the severer cases that die without it, and we cannot safely draw any line.

Is an exploratory incision in doubtful cases good surgery? My impression is that many surgeons feel the necessity of proposing an operation in the first place on the ground that it is urgent and necessary, not because they are doubtful as to how bad the condition of affairs may be. They feel that the people demand that they should know this much in such an acute case, whether the removal of the appendix is absolutely necessary before cutting in. Why not tell them truthfully that we cannot by any means always inform them as to this until we open the abdomen and that it may be of the greatest importance to establish this point. Are we not able to tell a patient that we dare not assume the responsibility of

saying that it is not safe to guess at the condition of affairs any longer, through two or three inches of abdominal wall? It certainly seems to me that the same rules hold good here that pertain to exploratory laparotomy for any other condition, and that we can as gracefully assure the patient's friends, in case our operation stops here, that we are glad to be able to tell them that our fears were not realized and that we are not obliged to remove any of the parts. Of the pathological conditions which we did not expect to find, where do we find a greater variety, and where more startling? Ought not an exploratory incision to have a stronger footing here than anywhere else in abdominal surgery?

OBITUARIES.

*Let's take the instant, by the forward top;
For we are old, and on our quick'st decrees
The inaudible and noiseless foot of time,
Steals, ere we can effect them.*

ALL'S WELL THAT ENDS WELL, Act v, Sc. 3.

ASHBEL WARD BARROWS, M.D., OF HARTFORD.

BY MELANCTHON STORRS, M.D.,

HARTFORD.

Ashbel Ward Barrows was a descendant of the Plymouth Puritans. An early ancestor, Thomas Barrows, came from Plymouth to Mansfield in 1720. He purchased one hundred acres for fifty pounds. This farm was the home of the Barrows family for one hundred and sixty-six years, five generations, and ten years ago was sold for five hundred dollars. This represented the wealth of the family. Anyone acquainted with the rugged soil of that township can easily understand the self-denial and the economy that must have been practiced by the large families reared upon this farm.

Thomas Barrows, 3rd, of Mansfield, grandfather of "Ward," as our late associate was called at home, had by his two wives eighteen children and was accounted a worthy patriarch. Andrew, the father of Ward, married Sarah Storrs. They had nine children; six sons and three daughters. Ward was the third child. The father and mother lived to be respectively ninety-one and eighty-four. It is somewhat remarkable that ten months ago the six brothers, from sixty-two to eighty-two, were all living.

It is recorded of the Barrows family that they were a sturdy, industrious, honest and religious people. They did not consider themselves as belonging to the ruling or aristocratic class, but rather to the yeomanry. As a family they had a dislike for active management of public affairs. It is especially noted of Ward's father that "he was esteemed for his industry, integrity and consistent Christian character;" of his wife Sarah Storrs Barrows, that "she was a dignified, grave, sedate woman who managed her house and large family with admirable quiet and order." Though three miles from the parish church, the family were in constant and early attendance.

Those of us who were well acquainted with Dr. Barrows can easily see in him the ancestral characteristics. The best things, however, in the succession had come down to him. He was born December third, 1816. He lived the life of a farmer's son. Being a slender and delicate boy, it is easy to imagine the struggle that he must have had, matched with stronger men. Yet it is said that in his even and methodical way, husbanding his strength, prudent and calculating, he accomplished his part, and one Summer season he hired out to a neighboring farmer. Until twenty-one it was farming in the Summer, going to the district school in Winter, until he was qualified to teach, which he did for a few seasons. Besides the district school he enjoyed private instruction from his pastor, the Rev. Mr. Ely, a well-educated man who took great interest in the young men of his parish.

He began his medical studies with Dr. Wm. H. Richardson, of Mansfield. In 1838 he received an appointment for a gratuitous course of lectures at Yale. At New Haven he came into a new life. The presence, teaching and magnetism of such men as Silliman, Ives, Knight and Hooker inspired him with greater love and zeal for his medical studies.

The following year was spent with Dr. Archibald Welch, then of Wethersfield. Dr. Welch was a son of Rev. Dr. Welch, the early pastor of young Barrows. Dr. Welch had previously practised medicine in Mansfield, so that there was not only an acquaintance but a warm friendship between them which ever continued.

Dr. Barrows graduated at Yale in 1841, and soon located in Rocky Hill, a near neighbor to his friend, Dr. Welch. After six years, in 1847, he removed to Hartford. He was well received by the people and soon had a living business. He was at one time for a few years in partnership with Dr. P. M. Hastings. He devoted his time exclusively to his profession. No other business was ever allowed to distract his attention. Hospital and insurance appointments gave him a variety of professional

work that he greatly enjoyed. "He was one of the six original physicians of the Hartford Hospital, which was founded in 1857. He was a visiting physician until 1874. Since then, up to the time of his death, he was one of the consulting physicians. In 1851 he became connected with the Phoenix Mutual Life Insurance Company as assistant medical examiner. In 1853 he was appointed medical director of the company, a position which he held until his death." He was an active member of the Hartford Medical, Hartford County Medical, and Connecticut State Medical Societies, and a member of the American Medical Association. In 1876 he was President of the State Medical Society. He continued in practice until his last sickness. But a physician who has reached his four score years expects and desires a diminution of work. Many of his old and best patrons, representing two or three generations, had passed away; remaining friends felt that they must excuse him by reason of his growing weakness in the hard and disagreeable part of his work. He recognized the inevitable law and gracefully yielded, only saying that he did not want to be wholly counted out; and he never was, and had he lived three days longer he would have been President of the Hartford Medical Society.

As a physician he honored his profession and medicine stands better in public estimation in this community for the fifty-five years of honest and painstaking work that he did. He studied how best to promote its every interest. He looked upon medicine as a sacred trust confided to the profession. He would be called a conservative. He never struck out into any new lines, he was not bold or heroic in his treatment. His medical life like his social was of an even tenor, one day was the history of many days, not necessarily of routine, but void of startling incidents. He was a safe and judicious practitioner. And who can say but that the greater number of such men daily and conscientiously testing the new theories and discoveries and so able wisely to approve or disapprove,

are not doing a greater service for medicine and the community?

His cases reported to the Medical Society were always carefully stated and instructive. His papers presented were valuable. He prepared biographical sketches for this Society, of his preceptors, Drs. Richardson and Welch, and Dr. Wilcoxson. His presidential address on the "Malarial Fevers of New England" attracted much attention and gave him such a reputation that he was called soon after to testify as an expert in an important trial in Berkshire County, Mass.

He was a man of culture and refinement, he had a high sense of honor. Some might say from his quiet and modest bearing that he was reserved, but he had a warm greeting and a pleasant smile for every one; courteous and affable, he was a gentleman in every sense of the word, helpful to his fellow-associates, and agreeable in all his intercourse with those whom he met. In person he was erect and trim, and showed only in his deliberate movements of late years the weakness that was gradually coming upon him. A few years after he came to Hartford, about 1856, it was feared that he would go into a decline. He had hemorrhages. He outlived this tendency, but of late years had an increasing weakness of the heart which he considered fatty degeneration. Little excitement or over-doing occasioned irregular action of the heart and difficult breathing. For the last two months of his life he was mostly confined to his bed. When quiet he suffered very little. A few moments before his death he thought that he was better, but died suddenly January third, 1896.

He was a marked man among us for his modest and unassuming faith and piety. This was so recognized that for most of the years that he lived in Hartford he held the office of Deacon in the churches where he worshipped, first in the South Congregational and when he removed to the north side of the city, in the Park Church.

We do not care to affirm the truth of a remark of an

acute observer of men and a life-long acquaintance of Dr. Barrows that "he was never tempted to sin," but it shows the confidence in him of one who knew him well.

We cannot forbear quoting a paragraph from the printed resolutions of the Hartford Medical Society concerning him, voiced by Dr. G. W. Russell who knew him intimately during his whole professional life:

"We grieve at his death, for we have lost in him a very dear friend, a most judicious counselor and a very worthy and acceptable practitioner in our profession. His life here has been an honor to us all, not an honor only, but a noble example for any and all of us to strive to imitate and to follow. His genuine modesty made him often silent when he might well have spoken; his thorough judiciousness, his kind consideration and his unselfishness led him to say no more than was necessary for a fair statement of his opinion. It is not often that we meet with so much of true goodness, of sterling merit, and unblemished honor in one individual. We honor his memory and bear willing testimony to the worth of our brother, as a Christian gentleman, and an honor to the medical profession."

We have remarked that his death was sudden. He was feeling better than for some weeks and expected soon to be out. He talked freely of the past and sent his greetings to the Hartford Medical Society soon to hold its annual meeting, regretted his inability to be present, but wanted the members to know that he would be with them in thought. Ten minutes later, without any warning, he passed away.

He was twice married, first to Miss Anna Freeman of Mansfield, who died April seventh, 1868, leaving two sons, Samuel Ward and Andrew Otis, both now in business in Hartford. His second wife was Mrs. Anna White who died May thirty-first, 1893.

His funeral was held at the Park Church which was well filled with sorrowing friends. The burial was at Cedar Hill Cemetery.

AMOS LOOMIS WILLIAMS, M.D., BROOKFIELD.

BY GEORGE L. PORTER, A.M., M.D.,

BRIDGEPORT.

Killed by the cars at Brookfield, Conn., Thursday, April sixteenth, 1896, at 11:40 A.M., Dr. Amos L. Williams, in the eighty-sixth year of his age.

The terrible news that this aged physician had been struck by a carelessly managed flying train and instantly killed sent a thrill of horror and indignation to every heart.

On account of his infirmities and his reluctance to give up the active life to which he had been accustomed, fears had many times been entertained that some accident might befall him while driving, but this unexpected happening was a cruel shock alike to relatives and friends.

Dr. Williams was of English descent, and had reason to be proud of his ancestry. The first of his family in this country, Robert Williams, who was born in Norwich, Norfolk County, England, landed at Boston in 1637, and he and the two succeeding generations settled and spent their lives in Roxbury and Cambridge.

Ebenezer Williams, of the fourth generation, moved to Lebanon, Conn., in 1715, and his descendants have since been identified with that town.

In this line were many noted persons, among them being William Williams, one of the signers of the Declaration of Independence, and Rt. Rev. Bishop Williams.

Amos Loomis Williams was born in Lebanon, Conn., January seventh, 1811. His father died when he was seven years of age and he was thrown upon his own resources early in life. At sixteen years of age he went to Roxbury, Conn., and studied with his brother, Dr. William C. Williams.

In 1831-32 he attended lectures in New Haven, then

located in Hunter, Greene County, New York, where he practiced a few months, then moved to Brookfield in 1833 where his life has been spent with the exception of a portion of the year 1840, when he attended lectures at and graduated from Jefferson Medical College, Philadelphia.

In October, 1833, he married Sarah J. Holley of Brookfield.

For more than sixty years he had led the self-sacrificing life of a country physician, having built up a large practice in this and surrounding towns which involved many miles of travel. He was always quick to respond to the calls of the suffering without reference to time or distance. Many times he made professional calls under circumstances which would have discouraged one less ambitious and courageous from making the attempt.

His wish that he might "die in the harness" was literally fulfilled, as only a few moments before he was hurled into eternity, on meeting an aged man who asked medical advice he tore a scrap from the margin of a newspaper and wrote a prescription for him.

He was a friend as well as a physician and his cheery presence in the sick-room was often more efficacious than medicine.

His life has been so interwoven with the lives and experiences of several generations of nearly every family in town that his fund of information in regard to many events and transactions was invaluable.

He had held the positions of Registrar and Medical Examiner for many years and a few years since, after receiving an accident which prevented his practicing for a time, he represented his town in the Legislature.

He was almost the last of his generation and the only surviving member of the circle of physicians who were for many years associated in this work.

By his death the Connecticut Medical Society loses its oldest member, the church a communicant of more than sixty years standing, and the town its most honored citizen.

His wife died in 1888 and his surviving children are Mrs. J. W. Skidmore, and Mrs. J. W. Sagendorf of Brookfield, and W. H. H. Williams of New York city, who with seven grandchildren, have the heartfelt sympathy of a mourning community.

Funeral services were held in the Congregational Church, Monday, April 20, at 1:30 p.m., conducted by the Revs. C. W. Francis and E. L. Whitcome, who paid fitting tributes to the life and the character of the deceased. The church was crowded with friends and relatives, among them S. C. Holley and family of Danbury, the Rev. Henry Sherman and Mr. and Mrs. George Baldwin of Bridgeport.

The medical profession were represented by Drs. Bill, Porter and Wright of Bridgeport, Clark of Danbury, King of New Milford, Gordon and Judson of Newtown, Mansfield of Georgetown and Smith of Brookfield.

The closed casket borne by Prof. F. S. Curtis, Dea. Alfred Somers, Benjamin Griffin and George C. Jones, was loaded with floral tributes of love and esteem.

The remains were consigned to their long rest in Central Cemetery.

“ Rest for the toiling hand,
Rest for the anxious brow,
Rest for the weary, wayworn feet,
Rest from all labor now.”

In presenting this obituary of Dr. Williams, prepared by a personal friend for the Bridgeport Standard, it is a privilege to testify regarding his personal qualities and his relationship to his professional brethren.

Naturally of a bright and cheery disposition, he had developed to their full extent those attributes of a noble mind—charity and sympathy—which secure for the aged, veneration and affection. For sixty years he had ministered in the homes of friends and of strangers, where sickness and apprehension had banished conventionalities, and where to the experienced eye of the physician are revealed the petty and selfish, as well as the lofty and

generous, traits of the inmates; he had cared for the victims of mental decay, of protracted suffering, of sudden horror; he had witnessed, more appreciatingly than any other person could have done, innumerable instances of self-devotion, of self-sacrifice, as well as callous disregard of the rights and happiness of others, and of brutal contributions to others' sufferings; he, by these and other experiences, was led to a fuller comprehension of the influences underlying our daily life and instead of growing hard at heart, was thereby raised to a higher moral and intellectual plane, so that as the passing years added to the venerableness of the face and figure, appreciation of the inherited and acquired incentives to evil, tempered with sweetness the severity of his judgment, and admiration for good deeds and kindly words made him rich in love and sympathy.

He realized that happiness is founded upon contentment and buttressed by duties honestly performed and by faith heartily placed, and therefore spent the days of his life in disinterested labor for the good of those among whom he dwelt, and built up in the community, where four generations had been his patients, a reputation for gentleness, for gracious sympathy, for personal uprightness, for honesty in word, deed, and opinion, which would have been impossible in the shifting population of town and city, or in other circumstances.

Firm in the belief that the science of medicine was the result of investigations extending over generations, and of personal study and experience, he had little tolerance for the claims of sooth-sayers or miracle-mongers, and appraised at a just valuation the "pathies" and "isms," of whose rise and fall he had been a derisive and indignant observer.

He was jealous of the good name of the profession, magnified the nobility and sacredness of its duties, and embodied in his own life the characteristics of Luke, the beloved physician, who went about doing good.

He was the oldest member of the Fairfield County

Medical Association, familiar with both its written and unwritten history, was personally acquainted with Drs. Simons, Dyer, the Blackmans, Rufus and George, and the Middlebrooks, Elijah and Stephen, and with others of the ancient worthies, whose record enriches and sanctifies our local medical history; was, before prevented by the infirmities of age, an active participant in the affairs of the annual conventions of the Society, and earnest in sustaining the usefulness and influence of the profession and in maintaining its dignity.

At the Centennial Celebration of the County Society he was the oldest member and the most welcome guest, and more than any other represented the spirit of the occasion.

The pleasure that his presence gave to those who, personally or by reputation, knew him, was freely expressed and by him was most feelingly acknowledged.

To his professional brethren he was always courteous and honorable; ever ready to extend the hand of friendship and assistance, and was prompt in protecting the reputation of a brother practitioner when it was unjustly assailed.

In his life and labors the community around him witnessed the influence of a good man, faithful to high purposes, performing conscientiously, patiently and unselfishly, all the requirements of an irksome profession, and his medical associates found an exponent of the best characteristics of a Doctor of Medicine, who at the close of long years of usefulness, possessed the confidence, love and veneration of the people to whom he had been friend and counselor, together with the respect and esteem of his brother practitioners.

A BRIEF BIOGRAPHICAL SKETCH OF
DR. DAVID LEWIS DAGGETT,
OF NEW HAVEN.

CHARLES A. LINDSLEY, M.A., M.D.,

NEW HAVEN.

Dr. David L. Daggett was born in New Haven on the 24th of June, 1820. He was of strictly Puritan stock, being the eighth generation in direct line from John Daggett, who came to America in 1637 with Governor Winthrop.

His grandfather, the Hon. David Daggett, was Chief Justice of the Supreme Court of Connecticut, and at one time a Senator of the United States.

His father, Mr. Leonard A. Daggett, during the doctor's early life, was a prosperous merchant in New Haven.

Dr. Daggett outlived most of the contemporaries of his boyhood, and little is to be learned of his school-boy days. Nothing is known which specially distinguished him from his youthful companions.

From the common schools of the town he was sent to the Hopkins Grammar School, where he was prepared for admission to the Sophomore Class of Yale College, which he entered in 1836. He received the degree of A.B. in 1839. He was at this time nineteen years old. He did not immediately begin the study of a profession, but, partly to get some relief from the close application and confinement to which he had been subjected during his college course and partly to obtain the advantages of a different experience, he engaged during the following year in the vocation of teaching. A part of the year he took charge of a school in Eastville, Virginia, and afterwards in North Milford, Connecticut.

He always regarded this year of his life as one of great value and profit to himself, as a training in self-reliance.

Up to this time it had been his intention to fit himself for the legal profession, in which his grandfather had been so conspicuous a light. But his health was still delicate and he questioned whether he could safely endure the confinement incident to the duties of a lawyer, tied to the atmosphere of an office and of court-rooms.

Chiefly on this account he reluctantly decided to abandon his purpose to study law, and because of the larger opportunities for outdoor life which the practice of medicine afforded, he determined upon the medical profession as the field of his future life-work.

The science of medicine in 1840, when young Daggett entered the list of medical students, was almost rudimentary as compared with medical science in 1896. Then Chemistry was in its infancy, Physiology was but crudely known, Pathology was almost a terra incognita, and Histology was in embryo, while Materia Medica and Therapeutics were in large degree legendary and empirical. The microscope had not yet contributed much to the advancement of medical science.

Fifty years ago the methods of study, in preparation for the medical profession, stood in a similar relation to present methods.

The universal custom then, required every medical student, to begin his studies with some respectable practitioner, who was nominally, and sometimes really, his preceptor. He was at liberty to read such books as the library of the doctor afforded, and semi-occasionally might make a formal recitation. The clinical advantages consisted of the infrequent office patients, (for a large office practice was unknown in those times); a little accidental minor surgery; the prescribing a tonic or an emetic or cathartic for some peripatetic patient; the pulling a tooth with a turnkey (for tooth forceps were not yet); a vaccination or a venesection; and sometimes the privilege of accompanying the doctor to visit such patients as would permit it. In the Pharmaceutical department of Materia Medica he enjoyed better opportuni-

ties than the student of the present day. For it was one of his duties to compound the prescriptions of his preceptor, who was usually apothecary as well as doctor.

Supplementary to this sort of medical education the student gave attendance upon a systematic course of lectures, for three or four months every year at some Medical College.

In accordance with the prevailing custom, Mr. David L. Daggett, Bachelor of Arts, on the 25th of August, 1840, began the study of medicine in the office of the late Dr. N. B. Ives. It is quite obvious that the results of a course of study in which so much was left to the option of the student, would depend greatly upon his diligence, intelligence and previous mental training.

That he made good use of his time may be assumed from the fact that he received the Degree of M.D. from the Medical Institution of Yale College, at which he had attended lectures during two successive winters, in a little less than two and a half years.

The subject of his graduating thesis was "The Therapeutic Applications of Ice." Without delay he opened an office in Wall street, in the immediate vicinity of the house in which he spent so much of his professional life and in which he died.

The same year of his graduation he was made a member of the New Haven Medical Association and of the Connecticut Medical Society in which relations he continued until his death, a period of fifty-three years.

His first official appointment was in the second year of his practice when he was made Secretary of the City Medical Association and in 1847 he was elected Clerk of the New Haven County Medical Association. His fair chirography, legible as print, embellishes the record-books of both the City Association and of the County Association for several successive years.

In the third year of his practice he was elected a "Fellow" to represent his County at the annual convention

of the State Medical Society. He was elected to the same office on several subsequent occasions.

In 1871 he was President of the County Medical Association; in 1872 he was chosen President of the New Haven Medical Association.

During the greater part of the time, a period of over half a century, in which Dr. Daggett was connected with the New Haven Medical Association, he was a very regular and constant attendant. He took an active part in all the proceedings and although seldom contributing written reports, generally engaged with interest in the discussions.

One of his reports however is of interest as being the only account on record, of cases of cholera as it occurred in New Haven in 1849.

He has given a concise, but clear description of five cases under his observation and care.

For some years past however, with the accession of many new and younger members, and especially by reason of the removal by death of many of his old associates his attendance at the meetings had been only occasional.

In 1849, in the sixth year of his practice he was appointed one of the attending physicians at the New Haven Hospital, in which service he continued until 1864. He was then appointed Consulting Physician, and was re-appointed annually until his death. Thus he had given an uninterrupted service to the Hospital from 1849 to 1896, covering nearly half a century.

During this time also he had served on the Prudential Committee for eleven consecutive years, from 1863 to 1874. He was continuously reelected a Director of the Hospital Society from 1856 to 1896, a term of forty years.

The General Hospital Society had no friend more watchful of its interests or more earnestly devoted to its welfare than Dr. Daggett.

In the late civil war, when the Knight Hospital was established in New Haven, Dr. Daggett was appointed

Acting Assistant Surgeon, and continued in daily duty until the end of the war.

In 1876 he was appointed a member of the City Board of Health. The records show that he was faithful and regular in attendance upon the meetings of the Board, and the writer as a fellow member, can testify to his interest in the work of the Board and to the respect which his colleagues entertained for his judgment and his experience on sanitary questions.

Dr. Daggett in his earlier professional career was Port Physician, having charge of the execution of the quarantine laws. His respect for law and his punctilious sense of his duty as defined by law, are illustrated by the following incident. The quarantine laws at that time required all vessels from Southern ports to come to anchor in the harbor and signal for the quarantine officer, who must go aboard, and examine the passengers and crew, and inspect the vessel before he could give a bill of health and permission to discharge passengers and cargo.

On one occasion a certain Captain ventured to ignore the law and came boldly up to the dock and dismissed his passengers, of which he had a goodly number, and then sent for the quarantine officer. Dr. Daggett responded to the call, but when he reached the dock and found that the passengers had been permitted to go ashore he declined to go aboard until they were brought to the ship. The Captain remonstrated, partly in nautical language more emphatic than polite. He demanded to know if the Doctor did not believe him when he said the passengers were all well.

The Doctor answered: "The law does not permit me to believe you, sir. Let me know when the passengers have come on board and you have returned the ship to the quarantine limits, and I will come and examine them. Good morning, sir."

In a few hours the passengers were gathered in from the hotels and the Doctor revisited the vessel and gave the necessary papers.

Dr. Daggett also served his state in a military capacity as Surgeon of the Third Battalion of Light Artillery, in the militia, for several years. His commission is dated August first, 1844. As this service was in the piping times of peace, there is no record of any remarkable military surgery connected with it.

As a practitioner Dr. Daggett was distinguished for his cool judgment, his powers of accurate observation, and his skill in diagnosis.

In his treatment of patients he was prudent and cautious, not venturesome in untried methods, although resourceful in difficulties.

He was conservative in his Therapeutics and not readily inclined to test the value of novel preparations upon his patients.

He was most intimately associated professionally with the late Doctors Ives, Eli and his two sons, Nathan B. and Levi, one of whom had been his preceptor, and all of whom were his contemporaries for many years.

They were all men of large professional experience and close intimacy, both socially and professionally.

They were remarkable for their powers of observation and nice sense of the indications of symptoms and of the effects of treatment.

They were all enthusiastic therapeutists and their skill and practice in attentive study of their patients was often a source of greater confidence in guiding their treatment than book authorities.

They seemed to constitute a little Medical Society by themselves, frequently and without restriction seeking each other's counsel in all difficult cases, and so in a measure they came to know and adopt some degree of uniformity of practice.

Dr. Daggett was fortunate in being an honored and valued member of this quartet. Their friendly intimacy continued unbroken through life.

Dr. Daggett was the youngest and last survivor.

In religion, Dr. Daggett was brought up in the Puritan faith of his ancestors, to which he adhered through life. He was a faithful and consistent member of the Congregational denomination. But he was not a controversialist, and never imposed his religious views offensively upon others, although ready to defend them if assailed.

In politics, he did not belong to the Democratic party, but always to the party in strongest opposition to it. In his early voting years he was a Whig. When the slavery question became prominent he was a Free-Soiler. When the Civil War had abolished slavery, he joined the ranks of the Republicans, and there he stayed.

In person, Dr. Daggett was a gentleman by instinct, and by culture and training. He was orderly, systematic and methodical in all his affairs, extremely polite and courteous in his manners, respectful to all with whom he was brought in contact, and scrupulously neat in his apparel.

He had strong convictions on questions he had investigated, but he was tolerant of those who entertained opposing or different opinions. He never exposed a chip upon his shoulder, nor sought to find one upon the shoulder of another.

In his personal habits he was socially inclined. Although enjoying a large acquaintance and many friends, he had a small circle of very intimate friends whose society he greatly loved.

He had a comparatively large practice, extending often into the surrounding towns. He was always fond of a good horse, but had no use for a poor one.

His professional business came to him spontaneously without effort on his part, and he attended his patients conscientiously and with fidelity and ability. He was always honorable in his relations with his medical brethren, observing the rules of professional etiquette with punctilious attention.

He was not an office seeker, having never held an office

from which he received any pecuniary emolument. But whenever he did accept the responsibilities of an official position, he discharged the duties with unwavering constancy and attention.

He was an honest man, a useful citizen, a Christian gentleman. He sustained through life an irreproachable character, enjoying the respect and esteem of all his acquaintances.

He was married June first, 1854, to Margaret Donaldson Gibbons, daughter of Dr. William Gibbons of Wilmington, Delaware, by whom he had three sons, still living. Mrs. Daggett died August eleventh, 1865.

IRVING WHITALL LYON, M.D., OF HARTFORD.

BY HORACE S. FULLER, A.M., M.D.,

HARTFORD.

If it makes little difference where one dies, as some one has said, it is of the highest consequence when one dies.

For when a man has thoroughly prepared himself for life's work, and has entered upon deeds of noble achievement, the world becomes the loser if his work is left unfinished. This is the more marked when one is in the prime of life and has been trained for special work. We meet to-day saddened by the loss of such a man, Doctor Irving Whitall Lyon, who was chosen to preside over this * meeting and anticipated much pleasure, intellectual and social, from this gathering.

Dr. Lyon was descended from pure English stock and his ancestors on both sides were among the earliest Puritan settlers. He was born October eighteenth, 1840, at Bedford, Westchester County, New York; was the son of Solomon Rundle Lyon and Hannah Rundle. He was a descendant of Thomas Lyon of Greenwich, Conn., (1640), and was a direct descendant on his mother's side of the Rev. George Phillips of Watertown, Mass., who embarked for America with John Winthrop and his distinguished company, 1630, in the ship *Arabella*.

Being brought up in a home where the strictest Puritan principles were observed they left their indelible impress upon his character. He was educated in the schools of his native town and at Lawrenceville Academy, New Jersey. He received his degree in medicine from the University of Vermont, in 1862, and from the College of Physicians and Surgeons, Columbia College, New York, in 1863, at which school he matriculated and took his first course in medicine, but which he left, owing to ill health. After taking his degree in 1862 he enlisted in the Union

* Read before the Hartford County Medical Association.

Army as Acting Assistant Surgeon, U. S. A., and served during June and July in the Tennessee campaign, but being in the fever districts his health soon failed and he was compelled to resign. He returned to the North and was appointed Demonstrator of Anatomy in the then famous Berkshire Medical School at Pittsfield, Mass., where he remained through the Summer course of 1862. He served on the House Staff of Bellevue Hospital, New York, from October, 1863, to October, 1864, acting through the severe typhus fever epidemic of this period. Among his associates here were Drs. Delafield, Janeway, Edgerton and others whose names are now well known to the medical profession.

Dr. Lyon settled in Hartford in the Autumn of 1864 where he has since remained in the practice of his profession. He was chosen Clerk of the Hartford Medical Society, in January, 1865; resigned August, 1866. He entered upon his duties with his usual earnestness and did much to make the proceedings of the society of greater interest. He was a member of the Hartford County Medical Association, of which he was Clerk in 1868 and 1869, and was its President at the time of his death. He was also a member of the Connecticut Medical Society. Dr. Lyon had been the Medical Director of the Hartford Life and Annuity Insurance Company from its incorporation in 1866 to the time of his death, being at that time one of the only two officers connected with the company from its beginning. He did his full share in contributing to the success of that company. He spent a great deal of time in obtaining information in regard to the physicians whom he chose as examiners. He looked over the applications with great care and often had to contend with the officers of the company when he felt obliged to reject applications which they were desirous of accepting. But of late years the wisdom of his counsel was seen and acknowledged and his advice was followed without opposition.

Dr. Lyon was a member of the Connecticut Historical

Society, the library of which he freely used in the studies which have brought honor to his name, and reputation to the city in which he dwelt. He was a member of the Society of the Sons of the American Revolution. Dr. Lyon was thoroughly informed in the principles and practice of medicine; he was full of enthusiasm and ambitions to excel in his profession; he felt confidence in his power of diagnosis and the application of remedies to the cure of disease. He pursued his practice with almost a boyish delight, and watched and noted his cases with a carefulness and attention to detail which contributed greatly to his accuracy. He gave special attention to the diseases of the heart and lungs and excelled in general physical diagnosis. He was never satisfied with the conclusions of others unless he had gone through the whole case with the minutest care and verified their findings for himself.

He was conscientious in his work and was in the habit of keeping very full notes of all his cases. The Doctor had a most graphic and impressive way of relating his cases and many here can recall his inimitable manner and dramatic power when describing some case of unusual interest to him. He had a most winsome way in the sick-room and readily attracted children to him. He inspired his patients with hope and courage which aided much in their recovery. He was a good counselor, forming his own conclusions and always ready to give a reason for them. He was progressive and though his positions were not always accepted by his older brethren he did much to elevate the standard of the profession.

Doctor Lyon contributed articles to the New York and Philadelphia journals and to the Hartford Medical Society and published several monographs.

For the last twenty years of his life he had devoted his leisure time to antiquarian studies. He was one of the early collectors of New England relics and his collection of pottery, porcelains, and colonial furniture was widely known and among the best private collections in

New England. To the study of the latter he had devoted many years of research in the records and archives of this country, and made three visits to Europe in order to become thoroughly acquainted with his subject and the origin of the styles of these early times, as the result of which in 1891 he published a volume entitled "The Colonial Furniture of New England." This work treated in detail the historical origin, development and art of New England furniture, and is regarded as an authority both in this country and abroad.

The work is characterized by clearness of statement, accuracy of description and much original research. Nothing was admitted to this work which he himself had not fully verified by personal investigation of original documents. Since the publication of this volume Dr. Lyon had been engaged in the study of "The Domestic Architecture of New England During the Colonial Period," and at the time of his death had in preparation an exhaustive historical study of this subject which he had intended to publish during the next year.

Dr. Lyon was an independent thinker on political, social and religious questions. He did his duty as a citizen; was well informed on the social topics of the day. His sentiments in regard to life are well expressed in his words to his daughter a few days before his last sickness: "Be noble, generous, true to your friends, live up to your highest moments and do good to others."

Dr. Lyon was a man of strong character, forming his own opinions and maintaining them with determination. Although often strongly at variance with others, he respected an honest opponent. Frank and honest himself he despised sham and pretence. Dr. Lyon was an exceedingly industrious man. Every moment which he could spare from his professional duties was devoted to special studies and he considered this recreation. He often remarked after running down to Boston and devoting every moment to the overhauling of old archives and

inventories that he was greatly refreshed and more vigorous for his professional duties.

The Doctor was pure minded, sincere, of the highest integrity, generous, sympathetic and true to his friends and whatsoever affected them touched him. Usually quiet in his manner, he was quick at repartee and often abounded in wit. His sympathy and his deeds were unbounded when a friend stood in need of help.

Doctor Lyon died March fourth, 1896, of pneumonia after two days' sickness, leaving a wife, Mary Elizabeth Tucker Lyon, and three children, Mary Phillips, wife of Chester B. Albree of Allegheny, Penn.; Irving Phillips Lyon and Charles Woolsey Lyon.

So few days have elapsed since the death of our friend we have scarcely recovered from the shock so as to realize our loss.

The vision of the man rises before me as I last saw him in health sitting at his desk, with manuscript in hand, his eyes sparkling and his face radiant with hope in anticipation of the early completion of his work on colonial architecture; a man with face refined by culture and life's experience, expressive of that benevolence and good will which were manifest in the thoughts and deeds of his life.

“A whiter soul, a fairer mind,
A life with purer course and aim,
A gentler eye, a voice more kind,
We may not look on earth to find.
The love that lingers o'er his name
Is more than fame.”

MICHAEL ALOYSIUS CREMIN, M.D., OF NEW HAVEN.

MATTHEW C. O'CONNOR, B.A., M.D.,

NEW HAVEN.

Michael Aloysius Cremin was born in County Limerick, Ireland, July fifteenth, 1851. He came to this country in 1863 when he was twelve years old. He settled in New Hartford, Conn., but soon removed to New Britain. After receiving the rudiments of his education in the public schools of New Britain, he entered St. Francis Xavier College, New York, in 1866. He graduated A. B. in 1871, being Valedictorian of his class. In 1872 he received his degree of A. M.

He then went to the Grand Seminary, Montreal, but the Canadian climate being too severe he remained there only a year.

After remaining at home for a few months to recuperate his health, he went to New York and taught for a year as private tutor.

He next entered the College of Physicians and Surgeons, New York city, from which he graduated in 1875. He served as House Surgeon in St. Vincent's Hospital, New York, and from there went to Dublin, Ireland, and took a course in the Rotunda Lying-in Hospital of that city. From there he went to Paris where he attended the hospitals.

Dr. Cremin returned home in 1876 and settled in New Haven, where he practiced for over nineteen years with eminent success.

In 1880 he married Miss Sarah Donnelly, daughter of Francis Donnelly of Fair Haven. Three sons and two daughters resulted from this union.

Dr. Cremin was ambitious to succeed in his chosen profession, and was well equipped mentally and physically

for its pursuit. He had great reliance on the resources of medicines and always used them with diligence and perseverance and thereby won the great confidence of his many patients. His faithfulness and assiduity in the care of his cases brought him many excellent results, by which his reputation was greatly enhanced. He rarely took a rest from his arduous work, deeming unceasing work necessary for his desired success.

His earnest work told on his constitution which gave way in the form of nervous prostration in November, 1895, which finally culminated in an attack of cerebral apoplexy which occurred on December twenty-sixth, 1895, and from which he never rallied, dying on December twenty-eighth, 1895, aged forty-four years.

His funeral was attended by many distinguished practitioners and clergymen and the church where the services were held was filled by an immense crowd of mourners who had assembled to pay tribute to his worth.

HARRY MERCEIN BURTCH, M.D., OF SALISBURY.

BY JOHN C. KENDALL, B.A., M.D.,

NORFOLK.

Dr. Harry M. Burtch was born in Providence, R. I., May twenty-sixth, 1859. His father was John D. Burtch, a native of Goshen, Conn.; his mother, Marietta J. Calendar of Sheffield, Mass. They were persons of sterling character, and in a model home in Sheffield young Burtch was reared. He was much esteemed by his townspeople and high hopes were entertained as to his career. His early education was received in Sheffield, where he also pursued his preliminary professional studies with Dr. Smith. He received the degree of M.D. from the Albany Medical School February twenty-fifth, 1882. After a short settlement in East Canaan he removed to Salisbury where he remained until his death February twelfth, 1896. He became a member of this Society April twenty-fourth, 1888.

His disposition was warm-hearted, courteous, jovial; although quite impulsive he preserved judicious self-restraint. He was never known to say an unkind thing of any one, and he never talked about himself.

He early conceived the desire to be a physician and when he came to that estate his ideals were lofty. In those ideals and in his exemplification of them his friends find a realization of Ian MacLaren's "Doctor of the Old School," and the funeral gathering at Drumtochty but foreshadowed the one at St. John's Church, Salisbury, where the final service was read over Dr. Burtch.

He was naturally delicate and often suffered interruptions to his work through sickness. He even imperiled his own life, if he did not finally sacrifice it through his devotion to others when he was sick himself.

He was married March third, 1886, to Miss Charlotte Elizabeth Hurlbert of Chicago, who survives him, with two of their three children.

DR. WILLIAM ALBERT LEWIS.

William A. Lewis, M.D., of Moosup, died suddenly on Saturday, April twentieth. For some days previous he had been suffering from a severe cold, which, however, did not prevent him from attending to his professional work. He had been for some years afflicted with a functional derangement of the heart, which was undoubtedly greatly aggravated by the recent loss of his little grandson. His daughter, Mrs. Lyon, being very ill, he had passed the last night in administering to her. Dr. Lewis was born in West Greenwich, R. I., August twenty-fifth, 1829. After receiving his medical degree at Harvard University he immediately began practice at Sterling Hill, at which place he remained until 1862, when he removed to Moosup, where he continued in active practice until the time of his death.

He had an extensive patronage in Windham County and the western part of the adjoining State of Rhode Island. He was held in high esteem by his brothers of the profession, among whom he held an honorable rank and commanded universal respect. Dr. Lewis had long been a member of the Windham County Medical Society and also of the State Medical Society, in which bodies he has held many honorable positions. He was at his death Medical Examiner for Plainfield. In politics he was a Republican and represented Plainfield in the Assembly in 1873, and in 1880 was Senator from the old Thirteenth District. For many years he had been a member of Moosup Lodge, No. 113, A. F. and A. M. Dr. Lewis was married to Margaret D. Gordon in November, 1864. He leaves but one child, Hattie, who married Edward Lyon of Moosup. Mr. and Mrs. Lyon have one child.

Words fail us in attempting to pay a just tribute to the memory of Dr. Lewis. Some poet has said that when a good man dies the whole world mourn his loss.

All mourn to-day who have ever truly known Dr. Lewis,

and those the more deeply who have recognized his sterling worth. No man in Windham County could be more sadly missed, and none more hardly spared. In all the varied walks of life he met the full requirement of a noble manhood. As a physician his pleasant smile and word of cheer always brought comfort to the stricken, and his genial presence lifted a cloud of gloom from the chamber of the afflicted. As a citizen he was honest, upright and conscientious in all intercourse with his fellow-men. As a neighbor he was kind, courteous and ever willing to perform an act of kindness or charity. As a friend he was faithful, just and true, and his life was the type of unselfish friendship.

An affable companion, a genial friend, a good and noble man has gone. His name is enrolled among the true ones who have left the world better for their having lived in it:

Therefore, be it resolved by the Windham Medical Society, that we have learned of the death of Dr. Lewis with the profoundest regret. A member of our body for many years, we had learned to love him as a brother and to esteem him for his many traits of kindness and for his genial companionship. We hereby extend our heartfelt sympathy to the members of his family in this their great bereavement.

T. R. PARKER, M.D., President.

W. H. JUDSON, Clerk.

BY-LAWS.

BY-LAWS.

CHAPTER I.

Titles and Meetings.

SECTION 1. This Society shall be known by the name of THE CONNECTICUT MEDICAL SOCIETY; and shall be composed of the several County Associations, formed of Active Members residing in the State; and of Honorary Members, not residing in this State, elected by the President and Fellows.

SEC. 2. The President and Fellows of the Connecticut Medical Society shall hold an Annual meeting on the fourth Wednesday in May of each year, alternately at Hartford and New Haven, except when by a majority vote they may agree to hold the annual meeting in some other place.

SEC. 3. The Connecticut Medical Society shall hold an Annual Convention for Literary and Scientific exercises following the general meeting of the President and Fellows.

SEC. 4. The members of the Connecticut Medical Society, constituting County Associations, shall meet annually in their respective counties at least four weeks before the annual meeting of the President and Fellows, and at such other times as said County Associations may determine.

CHAPTER II.

Officers.

SECTION 1. The officers of the Society shall consist of a President, Vice President, Treasurer, Secretary and Assistant Secretary, Committee on Matters of Professional Interest in the State, and the Presidents of the County Associations, who shall be Vice Presidents ex officio.

SEC. 2. It shall be the duty of the President to preside at all the meetings of the President and Fellows and at the Conventions of the Society, to preserve order, state and put questions, call for reports of committees, see that the by-laws are properly observed, and perform such other duties as may be appropriate to his office. At the Annual Meeting of the President and Fellows, the President shall present such matter for their consideration as he may think requires attention. At the Annual Convention he shall deliver an address on some suitable subject.

SEC. 3. In the absence or disability of the President, the Vice President or one of the ex officio Vice Presidents shall preside. In case of a vacancy in the office of President, caused by death, resignation, or removal, all the duties of his office shall devolve on the Vice President.

SEC. 4. It shall be the duty of the Treasurer to take charge and keep a correct account of all moneys belonging to the Society, together with the receipts and disbursements, and render annually to the President and Fellows a statement of all moneys received and paid by him. He shall preserve for the benefit of the Society, all donations and other movable property committed to his charge, and keep an exact list of the same, together with the names of the respective donors. He shall not pay any money out of the Treasury, nor make any investment of the funds of the Society, or change the same, but by order of the President and Secretary. And he shall deliver to his successor all books and papers, with the balance of cash or other property of the Society in his hands.

SEC. 5. The Secretary shall have charge of the records of the Society, attend all the meetings of the President and Fellows, and the Annual Convention of the Society, record all the transactions of the same, give true copies of them when requested, conduct their correspondence, and have the custody of the Seal of the Society. The Secretary shall be ex officio Chairman of the Committee of Publication. One of the elective members of the Com-

mittee of Publication, to be selected by the Secretary, shall be the Assistant Secretary. The Secretary shall send due notice of the annual meeting to each member, and publish notice of the same in three of the daily papers printed in this State. When definitely informed that the Delegates to the American Medical Association or any State Society cannot attend, he may appoint substitutes, or give certificates to those otherwise selected. The Secretary shall send each year an extra copy of the published "Proceedings" of the Society to each of the Clerks, for the use of the County Associations; also to other State Societies and to Honorary Members.

SEC. 6. The Committee on Matters of Professional Interest in the State, shall consist of three, and be ex officio Fellows of the Connecticut Medical Society, to be elected annually by ballot the first named to be Chairman, whose duty it shall be, at every Annual Convention, to report the progress of our science, particularly in Connecticut—remarkable and instructive cases of disease that have come to their knowledge—interesting facts or discoveries relating to medicine—all circumstances connected with epidemics (if any have prevailed) and the treatment adopted, whether successful or otherwise—in short, whatever influences may concern the health of the citizens of Connecticut. And the more effectually to perfect this report, it shall be the duty of each County and other Association represented in this Society annually to appoint one of its members as a Reporter, who shall furnish to this Committee, on or before the first day of May, all the information he can get relative to these subjects, within the limits of the district in which the local Association exists.

SEC. 7. Any officer of the Society may, for sufficient reasons, resign his office, or may be removed therefrom by order of the President and Fellows, for neglect, inattention, or malconduct; in either of which cases, or on the death of any officer, the President and Fellows shall supply the office vacated as soon as may be convenient.

SEC. 8. The necessary expenses of the Treasurer, Secretary, and Chairman of the Committee on Matters of Professional Interest in the State, shall be paid; and in addition thereto the Treasurer shall receive twenty-five dollars and the Secretary one hundred and fifty dollars per annum respectively for their services.

SEC. 9. The Secretary of the Society shall hold his office for four years and until another shall be elected. All other officers of the Society shall be elected annually.

NOTE.—By special vote this By-Law does not affect the tenure of office of the present Secretary.

CHAPTER III.

President and Fellows of the Connecticut Medical Society.

SECTION 1. The Annual Meeting of the President and Fellows of the Connecticut Medical Society shall be held on the fourth Wednesday of May in each year.

SEC. 2. The President, Vice President, Treasurer, Secretary, Committee on Matters of Professional Interest in the State, and the Fellows elected in the several counties shall be known and called by the name of the President and Fellows of the Connecticut Medical Society, a majority of whom legally assembled together shall be a quorum for the transaction of business, and shall have the power to make by-laws for the regulation and government of the Society and for the promotion of the objects of the same, not repugnant to the laws of this State or of the United States; to expel any member of the Society for misconduct; to make rules for the admission of members of the Society; and for their dismissal from the same; to lay a tax on each member of the Society not exceeding five dollars in each year; to dispose of the moneys thus raised and all other property of the Society in such manner as they may think proper to promote the objects and interests of the Society.

The President and Fellows at any annual meeting, and after one year's nomination of every candidate, and not otherwise, may, by a major vote of those present, elect

eminent physicians not resident in this State to be honorary members of this Society. But those so elected shall not exceed three in any one year.

SEC. 3. The President of the Society, or in case of his death or inability, the Vice President, shall have power to call a meeting of the President and Fellows at such time and place as he may think proper, when requested by any five Fellows of whom two at least are from different counties, and he shall cause notice thereof to be given by the Secretary to each member of the President and Fellows of the time and place of meeting, which notice shall be mailed at least one week previous to said meeting.

SEC. 4. Officers and Standing Committees shall be elected by ballot. The Committee of Publication shall consist of the Secretary, ex officio, and two other members elected by ballot, one of whom shall be Assistant Secretary. Each Annual County Meeting shall designate one of their elected Fellows to serve on the Nominating Committee of the President and Fellows. All other committees shall be appointed by the presiding officer of the Society. The President may appoint the usual committees two weeks before the Annual Convention.

SEC. 5. The President shall, at an early hour of the session, appoint a Committee of three Fellows, of which the Secretary shall be one, to be called the Business Committee, to whom all reports of cases, dissertations or other papers designed to be read at the Meetings of the Society shall be presented. This Committee shall examine them and recommend the manner and order in which they shall be read to the Society.

SEC. 6. It shall be the duty of the Fellows of the several counties to present to the Society short obituary sketches of deceased members, which shall be revised, amended or condensed by the Committee of Publication as they deem expedient. In case, however, of any considerable changes in obituary sketches either in revising, amending or condensing, said sketches shall be submitted to the writer before publication in the Proceedings.

CHAPTER IV.

County Meetings.

SECTION 1. The members of the Connecticut Medical Society shall meet annually in their respective counties, and at such other times and at such places as have been or may hereafter be agreed upon by them; provided, the annual meeting shall be at least four weeks before the fourth Wednesday in May. Each County Association of members of the Connecticut Medical Society shall be known and called by the name of the county in which it is held. Each County Association shall choose a President, Clerk and such other officers as may be found necessary. At their annual meeting they shall elect by ballot, of their own number, in each county, five, except in the county of Tolland which shall elect three, Fellows to have part in the superintendence and management of the Society. Each County Association shall elect as many Alternates as they elect Fellows, who shall act in the absence of their primaries. Each County Association shall designate one of their Fellows as a member of the Nominating Committee and another as his Alternate.

SEC. 2. The several County Associations shall have power to adjourn, to call special meetings, as they shall deem expedient, and adopt such by-laws as they find desirable, not contrary to the laws of the State or the by-laws of the Connecticut Medical Society.

SEC. 3. Any practicing physician of good moral character having the qualifications prescribed by the Charter and By-Laws of the Connecticut Medical Society and making application for that purpose may be admitted to membership in said Society by a major vote by ballot of the members present at any regular meeting in the Association in the County where said person resides, provided he has been residing and practicing in the State one year and in said County six months.

SEC. 4. All persons so elected shall, within one year after such election, subscribe to the by-laws of the Society

or otherwise declare in writing their assent to the same, or such election shall be void.

SEC. 5. Any County Association may, by a major vote, dismiss from the Society any member of their county who shall remove from the State or who shall leave the profession for other pursuits.

SEC. 6. Any County Association may, if it is deemed expedient, recommend to the President and Fellows, for dismissal from the Society, any member residing in that county who shall apply for such dismissal by a written request to that effect, delivered to the Clerk of said County Meeting at least ten days before the time of holding any legal county meeting; and also any member who shall refuse or neglect to pay taxes; and upon the approval of such recommendation by the President and Fellows in annual meeting, the connection between such member and the Society shall be dissolved; provided, that no member shall be honorably dismissed from the Society until all his taxes shall have been paid.

The Clerk of each County Association shall omit from the roll of members which he reports to the Treasurer the names of all members who have for two years refused or neglected to pay the taxes assessed by the President and Fellows, reporting the names of such delinquents to the County Meeting. Said County Association shall suspend such delinquent members till said taxes are paid, or unless they find good reasons for delay, may expel such delinquent members, reporting their action to the President and Fellows for approval.

The annual tax shall be collected from all members except the Clerks of County Associations; provided, that any County Association may recommend to the President and Fellows the abatement of the taxes, on account of disability or pecuniary embarrassment, of a member who is over sixty years of age.

SEC. 7. All violations of the by-laws of the Connecticut Medical Society, or of the Medical Police adopted by the Society, or of the rules and regulations passed by the

County Associations in conformity with the by-laws of the State Society, may be prosecuted and tried in the respective County Associations, under the following regulations, viz.: They shall appoint from among their members three persons to be known as the Board of Censors, the duties of which board shall be to take cognizance and advisory consideration of all instances of violation of the by-laws of the Society, that may come to their knowledge or be properly presented to them, and shall make report to the County Association of their action whenever it shall seem to them expedient, or they shall be thereto ordered by the Association. The member accusing another of a violation of any of the before mentioned regulations, shall make a statement, in writing, and lay the same before a Fellow of the Society; and such Fellow shall issue notification to the accused to appear before the next County Association, stating the time when and the place where it is to be held, to defend, if he sees fit, against such accusation. A copy of such accusation and notification shall be left with the accused, or at his last usual place of abode, at least twelve days previous to the time of holding the next County Association. And the accuser shall cause the said accusation and notification to be served and returned to the Clerk of the County Association on or before the day of their sitting; at which day the case with the accompanying papers shall be referred to the Board of Censors hereinbefore mentioned, who shall hear all evidence and report to the Association the conclusions at which they have arrived, and their reasons therefor, and the offender, upon conviction, may be punished by admonition, by suspension from the privileges of the Society for a period not exceeding two years, or by expulsion from the Society; provided, that no sentence of expulsion shall be valid until confirmed by the President and Fellows in annual meeting.

SEC. 8. When a new Clerk is chosen in any of the County Associations, his predecessor shall deliver to him all the records and papers pertaining to the office, retaining copies of the same, if he think proper.

SEC. 9. It shall be the duty of the several Clerks of the County Associations, in their respective counties, to collect and pay over to the Treasurer of the State Society all such taxes as shall from time to time be laid by the President and Fellows upon the members of the Connecticut Medical Society. A certified copy of the levy of the tax signed by the President and Secretary, shall be sent annually to the Clerk of each County Association. And the Clerks shall be allowed a compensation of five per cent. on all moneys collected by them respectively and paid to the Treasurer of the State Society; provided, that such additional sum as the County Association may direct, not exceeding five per cent. of the moneys collected, may be retained by the Clerk to pay the expenses of the meetings of said Association.

SEC. 10. The Secretary shall send to each Clerk, before the annual meeting of the County Medical Association, blanks for the returns required for the Secretary and Treasurer of the State Society. The Clerks shall return to the Secretary a true list of the officers elected at the annual meeting, all the members of the County Associations, with the post-office address of each—in case of new members the date and place of graduation should be invariably given; the names of members who have died since the last meeting, with the name of the person appointed to write an obituary sketch; also a list of delinquent tax-payers, with the amount due from each, and all other information therein required that may be necessary for the Secretary to make up the program for the annual convention. This return shall be certified by the Clerk, who shall transmit to the Secretary obituary sketches of those who have died, and all papers destined for the Transactions of the Society, or to be acted upon in convention. The blank to be returned to the Treasurer shall contain a list of the taxable members and those exempt, with the reason therefor; also such other facts as may be therein required, the whole return to be certified by the Clerk. Those who fail in this duty shall be sub-

ject to a fine of five dollars, to be collected by the Treasurer.

CHAPTER V.

Members.

SECTION 1. Each member of the Society shall have free access to the records of the Society, and the County Association to which he belongs, and may take attested copies thereof if he requests them.

SEC. 2. All the members of the Connecticut Medical Society have the privilege of attending all the meetings of the President and Fellows, and performing all the duties of Fellows except voting. Honorary members shall have the privilege of a seat at the Annual Meeting, and of taking part in the discussions; but they shall not vote on any question, nor be eligible to any office.

SEC. 3. Any member of the Society who shall make, vend, or publicly recommend, or who is directly or indirectly interested in the manufacture, use, or sale of any nostrum or patent medicine, shall not be eligible to any office, and is liable to be suspended from the privileges of the Society, or to expulsion.

SEC. 4. No member of the Society shall hold professional consultation or intercourse with any other than licensed physicians and surgeons in regular standing.

SEC. 5. It shall be the duty of every member of this Society to accuse any other member of the Society for such misdemeanors as he deems contrary either to the By-Laws, Medical Police, or Rules and Regulations adopted by the Society; and the accuser shall proceed in the manner directed in Chapter iv, sec 7, of By-Laws.

The privileges and obligations of membership revert to a regular physician on returning to the State.

CHAPTER VI.

Elections.

SECTION 1. All elections of officers of the Society shall be at the Annual Meeting of the President and Fellows,

and by ballot; and a majority of votes shall be requisite to elect.

SEC. 2. Before the President and Fellows proceed to ballot, the Committee on Nominations shall present a list of candidates for the several officers to be elected; and, an opportunity having been given to the members to make other nominations, the Society shall then be called to ballot; if no election is obtained on the first canvass, the two highest shall be candidates for the next balloting. When a choice is made, the persons chosen shall hold their office during one year, and until others shall be elected.

SEC. 3. The Nominating Committee shall report names for the delegates to the American Medical Association, and to corresponding Societies, and shall also nominate a Committee of Arrangements, whose duty it shall be to provide convenient accommodations for the next annual convention, and an Anniversary Chairman, who shall preside at the dinner of the next year. The Anniversary Chairman shall be one of the Committee of Arrangements.

CHAPTER VII.

SECTION 1. The Society adopts the Code of Ethics of the American Medical Association as a part of its Constitution and By-Laws.

SEC. 2. No article of the By-Laws, as now adopted, shall be altered or amended, except the subject proposed shall have been submitted in writing to the consideration of the President and Fellows at a previous annual meeting; and a vote of two-thirds of the members present in that body shall be necessary to ratify and confirm any amendment. But any By-Law may be suspended by a two-thirds vote.

SEC. 3. On the day of the annual convention, a dinner shall be provided, at the expense of those members partaking of it. Delegates from other Societies shall be provided for under the direction of the Committee of Arrangements. An invitation to this dinner may be given

to such eminent persons as the President of the Society, or Anniversary Chairman, shall think proper to notice in this manner.

CHAPTER VIII.

Honorary Degrees and Honorary Membership.

SECTION 1. No member of this Society shall be recommended to the President and Fellows of Yale College for the honorary degree of Doctor of Medicine until such member shall have been in the practice of medicine for a period of twenty-five years at least, and no more than one shall be recommended from this State in any one year, and such degree shall be conferred solely on the ground of distinguished merit and honor of the individual. Adopted in 1856.

SEC. 2. The names of candidates for the honorary degree of Doctor of Medicine and honorary membership shall be published in the Proceedings of the Society, and not be acted upon for one year subsequent to the time such nominations are made. Passed May, 1860.

DUTIES OF THE PUBLICATION COMMITTEE.

It shall be the duty of the Publication Committee to print, as soon as practicable after each annual meeting, a report of the Proceedings.

This shall contain the Secretary's report of the business transacted, the papers presented, a list of members, and such other material as may properly be placed in such a publication. All remarks made in the discussion of any scientific subject may be committed to writing by the person making them, either before or immediately after they are made and given to the Committee of Publication. The Secretary at the expense of the Society shall provide suitable tablets for this purpose. In the compilation of the Proceedings the papers shall be arranged in the following order: The Secretary's report, the President's Address, the Dissertations, papers by members presented

at the request of the Society, papers recommended for publication by the County Meetings, voluntary papers, obituary notices of deceased members.

Should the papers presented exceed suitable limits for publication the Committee is authorized and directed to omit such as they consider of the least value. In cases of doubt the Committee are authorized to use the order in which the papers are named above as the order of preference. A printed copy of the Proceedings shall be sent to each member of the Society, except to those who are in arrears two or more years for dues.

The Committee shall forward to the author of each published article twenty-five reprints of his paper, when such are requested.

Reprints of obituary sketches shall be sent, bound in proper form, in such numbers as may be desired, to the families of deceased members.

The Yale Medical School shall be allowed, free of expense, the use of two pages for advertising purposes.

Other proper medical or surgical advertisements may be inserted, a suitable charge being made for their admission.

ORDER OF EXERCISES.

Report of the Committee on Credentials.

Address to the Fellows by the President.

Report of the Committee on Unfinished Business.

Report of the Committee on Business.

Reports of Special Committees.

Introduction of New Business.

Report of the Treasurer.

Report of the Committee on County Resolves.

Report of the Nominating Committee.

Election of Officers and Delegates.

Report of Committee to Nominate Essayists on the Progress of Medicine and Surgery.

Report of Committee on Honorary Members and Degrees.

Reports of Standing Committees.

Report of Auditing Committee.

Miscellaneous Business.

PRECEDENCE OF MOTIONS IN ORDER.

WHEN A QUESTION IS UNDER DEBATE.

(Cushing.)

1. To adjourn.
2. To lay on the table.
3. The previous question.
4. To postpone to a day certain.
5. To commit.
6. To amend.
7. To postpone indefinitely.
8. The main question.

REPORTS OF COMMITTEES.

HOW TO DISPOSE OF THEM.

When a committee is ready to report, the first question is whether the assembly will receive the report.

If the assembly, either by formal vote, or by tacit consent, permits a report to be read, the report, by such permission, is received, and goes to the Clerk for his files—that is to say, lies on the table.

The committee, by reading the report is dissolved and discharged, and cannot act again without new power from the assembly.

The report having been received, as above indicated, lies on the table, and the matter may end at this point without further action being taken or a word said.

But if the assembly wishes to discuss, or take action on any part or the whole of a report it can do so as soon as the report is read, or at any subsequent time, upon motion properly seconded. Whenever a report, or any part of it is thus taken up, it may be treated and disposed of precisely as any other proposition,—it may be allowed to stand as it came from the committee, or it may be amended in its statement, reasons, opinion, or in its resolutions or other propositions, if it contain such—any portion being taken separately, several portions together, or the whole at once.

In whatever way the report be treated, the final question on any portion, or the whole, as the case may be, is on acceptance, and “when accepted it is adopted” (Cushing, p. 151, sec. 295) by the assembly, and becomes the statement, reasoning, opinion, resolution, or other act, as the case may be, of the assembly, the same as it would have been had it originated in the assembly itself without the intervention of a committee.

(Though the question may be properly put on acceptance of a statement of facts, reasoning, or opinion; on agreeing to resolutions or other similar propositions; on adopting the order, or on passing and coming to the vote recommended, etc.; all these phrases are only equivalent to acceptance, which comprehends them all).

The points then always to be remembered are, that a report is received by being allowed to be read; and that the whole, or any part of it, when accepted is adopted and should be so entered in the Proceedings.

If the above exposition, strictly in accordance with Cushing and correct parliamentary usage, were constantly kept in mind by presiding officers, the deliberations of our Societies would be greatly facilitated and much confusion avoided.

A motion was made and adopted that the time limitation of four years should not apply to the present Secretary.

MEMBERS OF THE SOCIETY.

HONORARY MEMBERS.

ANDREW JACOB FULLER,	Bath, Maine.
SAMUEL HAYES PENNINGTON,	Newark, N. J.
ARTHUR WARD,	Newark, N. J.
PAUL AUGUSTINE STACKPOLE,	Dover, N. H.
ADRIAN THEODORE WOODWARD,	Brandon, Vt.
WILLIAM McCOLLOM,	Brooklyn, N. Y.
BENJAMIN EDDY COTTING,	Boston, Mass.
SAMUEL THOMAS HUBBARD,	New York City.
GEORGE FIRMAN HORTON,	Terrytown, Pa.
AGRIPPA NELSON BELL,	Brooklyn, N. Y.
EDWARD CONSTANT SEGUIN,	Providence, R. I.
JOHN SHAW BILLINGS, U. S. A.,	Washington, D. C.
THOMAS ADDIS EMMETT,	New York City.
EDWIN MOTT MOORE,	Rochester, N. Y.
WILLIAM HENRY WELCH,	Baltimore, Md.
ROBERT FULTON WEIR,	New York City.
SIR JOSEPH LISTER,	London, Eng.
EDWARD G. JANEWAY,	New York City.
EDWARD R. SQUIBB,	Brooklyn, N. Y.
HON. CHARLES E. GROSS,	Hartford, Conn.
E. L. B. STICKNEY,	Springfield, Mass.
DAVID WEBSTER,	New York City.
ALEXANDER J. C. SKENE,	Brooklyn, N. Y.
SIR JAMES GRANT,	Ottawa, Canada.
HENRY O. MARCY,	Boston, Mass.
T. MITCHELL PRUDDEN,	New York.
WILLIAM W. KEEN,	Philadelphia.
T. GAILLARD THOMAS,	New York.

ACTIVE MEMBERS.

The Names of those who have been Presidents are in Capitals.

HARTFORD COUNTY.

GEORGE CYPRIAN JARVIS, M.D., of Hartford, President.

JARVIS K. MASON, of Suffield, Vice President.

GEORGE K. WELCH, M.D., of Hartford, Clerk.

County Reporter—SAMUEL W. IRVING, M.D., of New Britain.

Censors—WILLIAM T. BACON, M.D., HENRY DOUTTEIL, M.D.,

EVERETT J. McKNIGHT, M.D.

Annual Meeting, Third Wednesday in April.

HARTFORD:

GURDON W. RUSSELL, No. 207 Farmington Avenue.

Pinckney W. Ellsworth, No. 123 Pearl Street.

Panet M. Hastings, No. 130 Capitol Avenue.

Henry P. Stearns, No. 190 Retreat Avenue.

MELANCTHON STORRS, No. 91 Ann Street.

Horace S. Fuller, No. 95 Trumbull Street.

John O'Flaherty, No. 116 Main Street.

Nathan Mayer, No. 268 Main Street.

William M. Hudson, No. 105 Elm Street.

George C. Jarvis, No. 98 High Street.

David Crary, No. 490 Main Street.

John B. Lewis, No. 56 Prospect Street.

Daniel T. Bromley, No. 123 Pearl Street.

Gustavus P. Davis, No. 56 Prospect Street.

James Campbell, No. 34 Congress Street.

Charles E. Froelich, No. 49 Pratt Street.

John Dwyer, No. 13 Charter Oak Street.

Harmon G. Howe, No. 137 High Street.

William T. Bacon, No. 3 Pratt Street.

William W. Knight, No. 95 Trumbull Street.

Thomas D. Crothers, Fairfield Avenue.

George L. Parmele, No. 25 Pratt Street.

Ellen F. H. Gladwin, No. 705 Asylum Street.

Samuel B. St. John, No. 26 Pratt Street.

George R. Shepherd, No. 32 Farmington Avenue.

Frederick S. Crossfield, No. 26 Pratt Street.

Marcus M. Johnson, No. 74 Pearl Street.

William D. Morgan, No. 238 Main Street.

John F. Axtelle, No. 211 Main Street.

Noah Cressy, No. 214 Pearl Street.

George K. Welch, No. 94½ Trumbull Street.

Phineas H. Ingalls, No. 112 High Street.

Edward K. Root, No. 238 Main Street.

Luther A. Davison, No. 3 Pratt Street.

John Howard, No. 119 Trumbull Street.

Charles D. Alton, No. 86 Farmington Avenue.
 Oliver C. Smith, No. 44 High Street.
 Joseph E. Root, No. 67 Pearl Street.
 William Porter, Jr., No. 391 Allyn Street.
 Frederiek T. Simpson, No. 122 High Street.
 George R. Miller, No. 182 High Street.
 Charles C. Beach, No. 199 Main Street.
 Gideon C. Segur, No. 67 Farmington Avenue.
 George C. Bailey, No. 65 Church Street.
 Alva E. Abrams, No. 78 High Street.
 Charles E. Taft, No. 98 High Street.
 Thomas F. Kane, No. 141 Main Street.
 Arthur J. Wolff, No. 1 Spring Street.
 Ansel G. Cook, No. 164 High Street.
 Mrs. L. Darnstadt Kean, No. 253 Main Street.
 Edwin A. Down, No. 190 Retreat Avenue.
 Daniel F. Sullivan, No. 64 Church Street.
 Joseph H. Cahill, No. 51 Church Street.
 Everett J. McKnight, No. 370 Asylum Street.
 Benjamin S. Barrows, No. 78 High Street.
 H. Walter Murlless, No. 55 Church Street.
 Michael A. Bailey, No. 65 Church Street.
 George N. Bell, No. 44 High Street.
 Frank L. Waite, No. 26 Pratt Street.
 Charles S. Stern, No. 268 Main Street.
 Oliver K. Isham, No. 44 Church Street.
 Franklin L. Lawton, No. 657 Main Street.
 John H. Rose, No. 3 Pratt Street.
 John B. Waters, No. 103 Trumbull Street.
 Joseph B. Hall, No. 21½ Pratt Street.
 Edward O. Elmer, No. 61 Francis Avenue.
 Janet M. Weir, No. 31 Spring Street.
 John F. Dowling, No. 643 Main Street.
 Philip D. Bunce, No. 18 Pratt Street.
 Homer L. Law, No. 100 Washington Street.
 Wilton E. Dickerman, No. 19½ Pratt Street.
 Richard S. Griswold, No. 91 Ann Street.
 John B. Boucher, No. 92 Main Street.

AVON:

John L. North.

BERLIN:

Robert E. Ensign,
 Charles A. Gillin.

BRISTOL:

John J. Wilson,
 William W. Horton.

CANTON—Collinsville:

George F. Lewis,
 Ida Gridley-Case,
 William H. Crowley,
 George L. Woods.

EAST HARTFORD:

Edward H. Griswold,
 Thomas J. O'Connell,
 Walter G. Murphy,
 *Charles A. Fox.

Burnside:

Franklin H. Mayberry.

EAST WINDSOR—Broadbrook.
 Howard O. Allen.

ENFIELD:

Rial Strickland.

Thompsonville:

Edward F. Parsons,
 George F. Finch,
 Henry G. Varno.

Hazardville:

Simon W. Houghton.

FARMINGTON:

Franklin Wheeler,
 Charles Carrington.

* Exempted from taxation.

GLASTONBURY:

Henry C. Bunce,
Charles G. Rankin.

South Glastonbury:

Henry M. Rising.

MANCHESTER:

Francis H. Whiton,
John T. Dooley,
John C. Taylor.

South Manchester:

Julian N. Parker,
William R. Tinker,
Thomas H. Weldon.

NEW BRITAIN:

*BENJAMIN N. COMINGS,

*George Clary,
Edwin B. Lyon,
Jay S. Stone,
Erastus P. Swasey,
Michael J. Coholan,
George J. Holmes,
Lawrence M. Cremin,
Wilbur T. Bunnell,
Samuel W. Irving,
James F. Douaine,
Henry Dontteil,
Robert M. Clark,
Hermann Strasser.

PLAINVILLE:

John N. Bull,
Theodore G. Wright.

ROCKY HILL:

*Rufus W. Griswold.

SIMSBURY—TARIFFVILLE:

Charles M. Wooster.

SOUTHINGTON:

Willard G. Steadman.

SOUTH WINDSOR:

Mary S. Tudor.

SUFFIELD:

Jarvis K. Mason,
Matthew T. Newton,
Philo W. Street.

WEST SUFFIELD:

William E. Caldwell.

WETHERSFIELD:

*Abner S. Warner,
*Roswell Fox,
Edward G. Fox,
Arthur W. Howard.

WINDSOR:

*Samuel A. Wilson,
Newton S. Bell.

WINDSOR LOCKS:

Sidney R. Burnap,
Joseph A. Coogan.

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NEW HAVEN COUNTY.

GUSTAVUS ELIOT, M.D., of New Haven, President.

CHARLES S. RODMAN, M.D., of Waterbury, Vice President.

JOSEPH H. TOWNSEND, M.D., of New Haven, Clerk.

County Reporter—JAY W. SEAVER, M.D., of New Haven.

Censors—S. D. GILBERT, M.D., N. NICKERSON, M.D.,

J. M. BENEDICT, M.D.

Annual Meeting, third Thursday in April; semi-annual, third Thursday in October.

NEW HAVEN:

S. G. Hubbard, No. 23 College Street.
C. A. LINDSLEY, No. 15 Elm Street.
John Nicoll, No. 86 Broadway.
Moses C. White, No. 48 College Street.
Leonard J. Sanford, No. 216 Crown Street.
F. L. Dibble, No. 257 Church Street.
T. H. Bishop, No. 215 Church Street.
FRANCIS BACON, No. 32 High Street.
W. L. Bradley, No. 203 Crown Street.
A. E. Winchell, No. 60 Pearl Street.
Robert S. Ives, No. 339 Temple Street.
Evelyn L. Bissell, No. 308 Crown Street.
Arthur Ruickoldt, No. 71 Olive Street.

*Exempted from taxation.

Walter Judson, No. 1145 Chapel Street
 D. C. Leavenworth, No. 75 Howe Street.
 Frederick Belloso, No. 209 Orange Street.
 S. D. Gilbert, No. 29 Wall Street.
 S. H. Chapman, No. 193 Church Street.
 J. P. C. Foster, No. 109 College Street.
 F. O. White, No. 514 Howard Avenue.
 W. H. Carmalt, No. 87 Elm Street.
 T. H. Russell, No. 137 Elm Street.
 F. H. Whitemore, No. 13 Elm Street.
 C. P. Lindsley, No. 37 Elm Street.
 H. Fleischner, No. 928 Grand Avenue.
 M. Mailhouse, No. 151 Meadow Street.
 M. C. O'Connor, No. 882 State Street.
 Charles E. Park, No. 132 Olive Street.
 F. E. Beckwith, No. 139 Church Street.
 Gustavus Eliot, No. 209 Church Street.
 J. E. Stetson, No. 106 High Street.
 J. F. Luby, No. 667 Grand Avenue.
 William W. Hawkes, No. 35 High Street.
 Frank H. Wheeler, No. 221 Crown Street.
 Herbert E. Smith, Medical College.
 Benjamin L. Lambert, No. 358 Howard Avenue.
 F. W. Wright, No. 48 Pearl Street.
 Edward K. Roberts, No. 244 Grand Avenue.
 Oliver T. Osborne, No. 252 York Street.
 Lucy M. Peckham, No. 144 Green Street.
 William G. Daggett, No. 189 Church Street.
 Louis S. DeForest, No. 54 Wall Street.
 Henry L. Swain, No. 232 York Street.
 Mary B. Moody, Sherland Avenue, cor. E Grand Avenue.
 G. F. Converse, Junction Whalley Avenue and Goffe Street.
 J. H. Townsend, No. 39 College Street.
 T. M. Cahill, No. 227 Franklin Street.
 C. J. Foote, No. 305 Howard Avenue.
 Marvin Smith, No. 11 Pearl Street.
 S. J. Maher, No. 212 Orange Street.
 Jay W. Seaver, No. 25 Lynwood Street.
 Louis B. Bishop, No. 77 Whitney Avenue.
 H. W. Ring, No. 46 Elm Street.
 W. C. Welch, No. 44 College Street.
 A. O. Baribault, No. 528 Chapel Street.
 J. F. Baker, No. 695 Grand Avenue.
 Rollin McNeil, No. 149 Bradley Street.
 Edward M. McCabe, No. 224 Orange Street.
 James M. Reilly, No. 337 Cedar Street.
 Clarence E. Skinner, No. 318 Orange Street.
 N. R. Hotchkiss, No. 150 Shelton Avenue.
 Benjamin A. Cheney, No. 40 Elm Street.
 Charles A. Tuttle, No. 129 Whalley Avenue.
 Harry A. Elcock, No. 226 Crown Street.
 Louis J. Gaynor, No. 226 Orange Street.
 Harry B. Ferris, No. 317 Crown Street.
 Moses J. Hsinsky, No. 156 Congress Avenue.
 Edward S. Thomson, No. 91 Park Street.
 Henry F. Kleuke, No. 758 Grand Avenue.
 Leonard W. Bacon, Jr., No. 294 Elm Street.
 Paul S. Robinson, No. 161 Grand Avenue.

- Arthur N. Alling, No. 214 Crown Street.
 A. W. Evans, No. 12 High Street.
 R. A. McDonnell, No. 312 Elm Street.
 E. P. Pittman, No. 52 Sylvan Avenue.
 James A. Moore, No. 223 Grand Avenue.
 Isaac N. Porter, No. 194 Dixwell Avenue.
 Woodburn R. Avis, No. 284 Ferry Street.
 Ernest H. Arnold, No. 15 Wall Street.
 Robert E. Peck, No. 486 Elm Street.
 Robert H. McNair, No. 343 Howard Avenue.
 Daniel A. Jones, No. 746 Chapel Street.
 William C. Wurtemberg, No. 38 Elm Street.
 Channcey S. Lamb, No. 10 Park Street.
 Robert O. Moody, No. 1204 Chapel Street.
 Edward S. Moulton, No. 233 York Street.
 Frederick N. Sperry, No. 76 Wooster Street.
 William F. Verdi, No. 172 St. John Street.
 Frederick W. Pirritte, No. 231 York Street.
- Westville:**
 A. W. Marsh.
- ANSONIA:**
 Louis E. Cooper.
 Frederick C. Goldstein.
 Robert J. Barry.
- BRANFORD:**
 C. W. Gaylord.
 Walter Zink.
 A. J. Tenny.
 A. J. Varno.
 George H. Townsend.*
- CHESHIRE:**
 M. N. Chamberlin.
 E. T. Cornwall.
- DERBY:**
 T. J. O'Sullivan.
 F. N. Loomis.
 Royal W. Pinney.
- GUILFORD:**
 George H. Beebe.
- HAMDEN:**
 E. D. Swift.
 †O. F. Treadwell.
- MADISON:**
 *D. M. Webb.
- MERIDEN:**
 *Asa H. Churchill.
 C. H. S. Davis.
 N. Nickerson.
 A. W. Tracy.
 E. T. Bradstreet.
 J. D. Eggleston.
 Edward W. Smith.
 O. J. D. Hughes.
- †P. O. New Haven.
- Ava H. Fenn.
 E. W. Pierce.
 F. P. Griswold.
 E. D. Hall.
 H. W. Delesdernier.
 H. A. Meeks.
 John L. Gartland.
 William Galvin.
 J. W. H. La Pointe.
- MILFORD:**
 *Hull Allen.
 E. B. Heady.
 E. C. Beach.
- NAUGATUCK:**
 Frank B. Tuttle.
 Thomas M. Bull.
 Frederick A. Spring.
 James W. Robbins.
 William J. Delaney.
 Edwin H. Johnson.
- NORTH HAVEN:**
 R. B. Goodyear.
- ORANGE—West Haven:**
 J. F. Barnet.
 William V. Wilson.
 Durell Shephard.
- OXFORD:**
 Lewis Barnes.
- SEYMOUR:**
 Frank A. Benedict.
 Patrick F. Strapp.
 Elias W. Davis.
- SOUTHURY:**
 Myron L. Cooley.
- *Exempted from taxation.

WALLINGFORD:

J. D. McGaughey,
C. H. Atwater,
William S. Russell,
William P. Wilson.

WATERBURY:

Edward L. Griggs,
F. E. Castle,
E. W. McDonald,
Walter H. Holmes,
Walter L. Barber,
C. W. S. Frost,
F. M. Cannon,
Charles S. Rodman.

J. M. Benedict,
Thomas L. Axtelle,
Carl E. Munger,
Bernard A. O'Hara,
John F. Hayes,
Caroline R. Conkey,
Augustin A. Crane,
Patrick T. O'Connor,
John D. Freney,
Charles A. Hamilton,
George O. Robbins,
Charles H. Brown,
Edward W. Goodenough,
Isaac P. Fiske. —168

NEW LONDON COUNTY.

MYRON W. ROBINSON, M.D., of Colchester, President.

WILLIAM S. C. PERKINS, M.D., of Norwich, Vice President.

CHARLES B. GRAVES, M.D., No. 2 Mercer Street, New London, Clerk.

County Reporter—CHARLES B. GRAVES, M.D., of New London.

Censors—L. S. PADDOCK, M.D., WM. M. BURCHARD, M.D.,
F. N. BRAMAN, M.D.

Annual Meeting, first Thursday in April: semi-annual, first Thursday in October

COLCHESTER:

Myron W. Robinson,

EAST LYME—Niantic:

Frederick H. Dart,
Edward C. Chipman.

GRISWOLD—Jewett City:

George H. Jennings.

GROTON:

Edmund P. Douglass,
Frank W. Hewes.

LEBANON:

Norman L. Drake.

MONTVILLE:

*John C. Bolles,

UNCASVILLE:

Morton E. Fox,
William M. Burchard.

MYSTIC:

Frank A. Coates,
A. M. Purdy.

NEW LONDON:

A. W. Nelson,
F. N. BRAMAN,
J. G. Stanton,
Charles B. Graves,
Joseph R. Crofton,

Elisha Munger,
Hiram B. Thomson,
John N. Dimon,
Harold H. Heyer,
William R. Babcock,
Carlisle F. Ferrin,
Thomas W. Rogers.

NORWICH:

Lewis S. Paddock,
William Witter,
William S. C. Perkins,
Patrick Cassidy,
L. B. Almy,
Anthony Peck,
Julian LaPierre,
E. P. Brewer,
N. P. Smith,
Patrick H. Harriman,
W. K. Tingley,
W. T. Browne,
George R. Harris,
Charles H. Perkins,
Rush W. Kimball,
William A. Korn,
Charles V. Juntler,
Henry B. Stevens.

TAFTVILLE:

George Thompson.

*Exempted from taxation.

OLD MYSTIC:

* Albert T. Chapman,
William H. Gray.

VOLUNTOWN:

Warren Russell Davis.

STONINGTON:

Charles E. Brayton,
George D. Stanton.

WATERFORD:

George M. Minor. —49

FAIRFIELD COUNTY.

JOHN W. WRIGHT, M.D., of Bridgeport, President.

W. H. DONALDSON, M.D., of Fairfield, Vice President.

L. T. DAY, M.D., of Westport, Clerk.

County Reporter—W. B. COGSWELL, of Stratford.

Censors—M. V. B. DUNHAM, M.D., W. S. WATSON, M.D.,
F. B. BAKER, M.D.

Annual Meeting, second Tuesday in April, at Bridgeport: semi-annual in October.

BRIDGEPORT:

ROBERT HUBBARD, No. 254 State Street.

Andrew J. Smith, No. 85 Barnum Avenue.

GEORGE L. PORTER, No. 266 State Street.

Robert Lauder, No. 192 Fairfield Avenue.

Curtis H. Bill, No. 285 State Street.

N. E. Wordin, No. 174 Fairfield Avenue.

F. M. Wilson, No. 317 State Street.

T. F. Martin, No. 115 Golden Hill Street.

W. H. Bunnell, No. 130 Seaview Avenue.

F. B. Downs, No. 256 State Street.

W. C. Bowers, No. 242 State Street.

J. W. Wright, No. 229 State Street.

A. W. Lyons, No. 289 State Street.

A. A. Holmes, No. 139 Fairfield Avenue.

Charles C. Godfrey, No. 254 State Street.

S. M. Garlick, No. 316 State Street.

Henry Blodget, No. 313 State Street.

J. C. Lynch, No. 252 State Street.

C. C. Hoyt, No. 623 State Street.

G. W. Osborn, No. 339 Broad Street.

J. R. Topping, No. 131 East Main Street.

B. W. White, No. 276 State Street.

Jacob May, No. 348 Broad Street.

F. C. Graves, No. 309 State Street.

G. B. Cowell, No. 120 East Washington Avenue.

C. N. Haskell, No. 254 State Street.

George E. Ober, No. 129½ East Main Street.

B. DeF. Sheedy, No. 311 State Street.

Russell T. Bishop, No. 343 State Street.

D. C. DeWolfe, No. 289 Fairfield Avenue.

Harry S. Miles, No. 317 State Street.

Charles S. Banks, No. 254 State Street.

Fessenden L. Day, No. 313 State Street.

Edward Fitzgerald, No. 126 East Washington Avenue.

* Exempted from taxation.

George S. Ford, No. 231 State Street.
 Robert G. Levery, No. 93 Washington Avenue.
 Frank M. Tukey, No. 293 State Street.
 William W. Gray, No. 284 State Street.
 James D. Gold, No. 282 State Street.
 Reuben A. Lockhart, No. 8 North Washington Avenue.
 Albert L. Tuttle, No. 10 North Washington Avenue.
 Harriet A. Thompson, No. 252 State Street.

BETHEL:

A. E. Farber,
 Charles R. Hart.

BROOKFIELD:

Junius F. Smith.

DANBURY:

F. P. Clark,
 A. T. Clason,
 E. A. Stratton,
 W. S. Watson,
 D. Chester Brown,
 W. F. Follansbee,
 Richard Ellis,
 H. F. Brownlee,
 John H. Benedict,
 Nathaniel Selleck,
 Clayton P. Bennett,
 William F. Wood,
 George E. Lemmer,
 Charles F. Craig,
 John A. Wade.

DARIEN—Noroton:

William F. French,
 WM. G. BROWNSON,
 John Joseph Kindred.

FAIRFIELD:

W. H. Donaldson,
 Andrew M. Ewing.

Greenfield Hill:

M. V. B. Dunham.

Southport:

William G. Morgan.

GREENWICH:

W. L. Griswold,
 Frank Terry Brooks.

HUNTINGTON—Shelton:

Gould A. Shelton,
 D. A. Richardson,
 William S. Randall.

MONROE:

John G. Stevens.

Stepney:

SETH HILL.

NEWTOWN:

Edward M. Smith.

Sandy Hook:

Dana P. Richardson.

NORWALK:

James G. Gregory,
 R. L. Higgins,
 S. H. Huntington,
 William J. Tracey.

South Norwalk:

George W. Benedict,
 W. C. Burke, Jr.,
 A. N. Clark,
 C. G. Bohannan,
 Lauren M. Allen,
 Henry C. Sherer,
 John T. Kennedy.

East Norwalk:

Frederick B. Baker.

REDDING:

Ernest H. Smith.

RIDGEFIELD:

Russell W. Lowe,
 Willis E. Weed.

STAMFORD:

H. P. Geib,
 A. M. Hurlbutt,
 Samuel Pierson,
 A. N. Phillips,
 C. R. Hexamer,
 P. P. Van Vleet,
 F. Schavoir,
 Wm. A. b. Treadway,
 F. P. Rogers,
 Roswelle G. Philip,
 James A. Meek,
 George Sherrill,
 Nathaniel P. Washburne,
 Watson E. Rice.

STRATFORD:

W. B. Cogswell,
 G. Fred. Lewis.

WESTON—Lyon's Plain:

F. Gorham.

WESTPORT:

George B. Bouton,
 F. Powers,
 Loren T. Day,
 F. D. Rulund.

WILTON:

A. B. Gorham.

SOUTH WILTON:

Edward Everett Smith.

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GEORGETOWN:

Howard P. Mansfield.

WINDHAM COUNTY.

F. E. GUILD, M.D., of Windham, President.

HENRY L. HAMMOND, M.D., of Killingly, Vice President.

W. H. JUDSON, M.D., of Danielson, Clerk.

County Reporter—T. M. HILLS, M.D., of Willimantic.*Censors*—T. M. HILLS, M.D., LOWELL HOLBROOK, M.D.,

E. H. DAVIS, M.D.

ABINGTON:

Ezra B. Pike.

BROOKLYN:

A. H. Tanner.

CHAPLIN:

Charles M. Knight.

DANIELSON:

Rienzi Robinson,
Nathaniel Hibbard,
W. H. Judson,
C. J. Le Clair.

KILLINGLY:

Ashael E. Darling,
Henry L. Hammond.

East Killingly:

Edwin A. Hill,
Charles E. Hill.

PLAINFIELD:

E. H. Davis.

Moosup:

Charles N. Allen,
W. W. Adams.

Central Village:

*Charles H. Rogers.

POMFRET:

S. B. Overlock.

* Exempted from taxation.

PUTNAM:

*H. W. Hough,
John B. Kent,
F. A. Morrell,
Omar LaRue,
Warren W. Foster.

THOMPSON:

LOWELL HOLBROOK.

No. Grosvenordale:

J. F. McIntosh.

WINDHAM:

F. E. Guild.

Willimantic:

Frederick Rogers,
T. MORTON HILLS,
*O. B. Griggs,
C. J. Fox,
T. R. Parker,
John Weldon,
James Jay Smith,
A. D. David,
C. H. Girard,
R. C. White,
*Farnam O. Bennett.

WOODSTOCK:

George W. May,

Woodstock Valley:

Henry R. Lowe.

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LITCHFIELD COUNTY.

ELIAS PRATT, M.D., of Torrington, President.

WILLIAM L. PLATT, M.D., of Torrington, Vice President.

JOHN C. KENDALL, M.D., of Norfolk, Clerk.

County Reporter—JAMES T. SEDGWICK, M.D., of Litchfield.*Censors*—R. S. GOODWIN, M.D. J. L. BUEL, M.D.,

T. S. HANCHETT, M.D.

Annual Meeting, second Tuesday in October; semi-annual, fourth Tuesday in April.

BARKHAMSTED—Riverton:

H. D. Moore.

CORNWALL—West Cornwall:

J. A. Livingston.

Cornwall Bridge:

W. M. S. Curtis.

GOSHEN:

J. H. North.

KENT:

W. M. Barnum.

LITCHFIELD:

C. O. Belden,

F. H. Wiggin,

J. T. Sedgwick,

John L. Buel,

W. S. MacLaren,

J. R. Bolton,

Charles I. Page,

Etta May Hadley-Judd.

NEW HARTFORD:

*Jerry Burwell,

Josiah Swett.

NEW MILFORD:

G. E. Staub.

Gaylordsville:

H. B. Griswold.

NORFOLK:

John C. Kendall,

I. L. Hanmunt,

Lucius D. Bulkley,

Frederick S. Dennis.

NORTH CANAAN—Canaan:

C. W. Camp,

E. H. Lee.

PLYMOUTH—Terryville:

W. P. Swett,

W. W. Wellington.

*Exempted from taxation.

SALISBURY—Lakeville:

W. Bissell,

George H. Knight.

SHARON:

B. W. Munson,

C. W. Bassett.

THOMASTON.

Ralph S. Goodwin,

George D. Furguson.

TORRINGTON:

William L. Platt,

T. S. Hanchett,

Elias Pratt,

J. W. Johnson.

WASHINGTON:

ORLANDO BROWN,

William J. Ford.

New Preston:

R. A. Marcy.

WATERTOWN:

W. S. Munger,

Eugene C. French.

WINCHESTER—Winsted:

E. L. Pratt,

W. S. Hurlbert,

Salmon G. Howd.

West Winsted:

John W. Bidwell,

E. H. Welch,

W. S. Richards.

WOODBURY:

D. R. Lodger.

Hotchkissville:

J. S. Bissell.

MIDDLESEX COUNTY.

FRANCIS D. EDGERTON, M.D., of Middletown, President.

FRANK K. HALLOCK, M.D., of Cromwell, Clerk.

County Reporter—F. E. POTTER, M.D., of Portland.

Censors—S. W. TURNER, M.D., GEORGE W. BURKE, M.D.

M. C. HAZEN, M.D.

Annual Meeting, second Thursday in April: Semi-Annual, second Thursday in October.

CHATHAM—Middle Haddam:
*Albert E. Worthington,
George N. Lawson.

East Hampton:
Albert Field.

CHESTER:
Sylvester W. Turner,
Fred. Sumner Smith.

CLINTON:
Herbert S. Reynolds.

CROMWELL:
Winthrop B. Hallock,
*Frank K. Hallock,
Charles F. Bush.

DURHAM:
Earl Mathewson.

EAST HADDAM:
M. W. Plumstead.

ESSEX:
Charles H. Hubbard.

HADDAM:
Miner C. Hazen,
Selden W. Noyes.

KILLINGWORTH:
Edward P. Nichols.

MIDDLETOWN:
*George W. Burke,
FRANCIS D. EDGERTON,

James Olmstead,
Wm. E. Fisher,
Charles E. Stanley,
James M. Keniston,
Henry S. Noble,
Michael D. Murphy,
John E. Bailey,
Arthur J. Campbell,
Arthur B. Coleburn,
J. Francis Calef,
John E. Loveland,
Kate C. Mead,
Frank E. Coudert,
Lewis Maitland,
Daniel A. Nolan,
William H. Wilson.

OLD SAYBROOK:
John H. Granniss.

PORTLAND:
Cushman A. Sears,
Frank E. Potter,
Roger C. Downey,
James Murphy.

SAYBROOK—Deep River:
Edwin Bidwell,
H. T. Freuch.

WESTBROOK:
Thomas B. Bloomfield.

*Exempted from taxation.

TOLLAND COUNTY.

EDWIN T. DAVIS, M.D., of Ellington, President.

WILLIAM L. HIGGINS, M.D., of South Coventry, Vice President.

WILLARD N. SIMMONS, M.D., of Tolland, Clerk.

County Reporter—C. B. NEWTON, M.D., of Stafford Springs.*Censors*—C. F. SUMNER, M.D., E. P. FLINT, M.D.,

W. N. SIMMONS, M.D.

Annual Meeting, third Tuesday in April: Semi-Annual, third Tuesday in October.

BOLTON:

*CHAS. F. SUMNER.

COVENTRY:

William C. Haven.

South Coventry:

Henry S. Dean,

W. L. Higgins.

ELLINGTON:

E. T. Davis.

MANSFIELD—Mansfield Depot:

F. E. Johnson.

ROCKVILLE:

*Francis L. Dickinson,

Frederick Gilnack,

*Exempted from taxation.

E. K. Leonard,

T. F. Rockwell,

Fred. W. Walsh,

E. P. Flint.

SOMERS:

A. L. Hurd.

STAFFORD—Stafford Springs:

C. B. NEWTON,

T. H. Raftery,

F. L. Smith.

TOLLAND:

*W. N. Simmons.

VERNON:

*A. R. GOODRICH.

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ALPHABETICAL LIST

OF THE

MEMBERS OF THE CONNECTICUT MEDICAL SOCIETY,

With date and place of Graduation, and Post-Office Address.

Name.	Medical Graduation.	P. O. Address.
Abrams, Alva Elnathan,	Albany, '81,	Hartford.
Adams, William Waldo,	Bellevue, '91,	Moosup.
Allen, Charles Noah,	Univ. Vt., '81,	Moosup.
Allen, Howard Oliver,	Univ. N. Y., '79,	Broad Brook.
Allen, Hull,	Univ. N. Y., '21,	Milford.
Allen, Lauren Melville,	P. & S., N. Y., '80,	So. Norwalk.
Alling, Arthur Nathaniel, B.A.,	P. & S., N. Y., '91,	New Haven.
Almy, Leonard Ballou, B.A., '72,	Bellevue, '76,	Norwich.
Alton, Charles De Lancey,	Bellevue, '75,	Hartford.
Arnold, Ernest Hermann,	Yale, '94,	New Haven.
Atwater, Caleb Huntington,	P. & S., N. Y., '71,	Wallingford.
Avis, Woodburne Rozelle,	P. & S., Balt., '94,	New Haven.
Axtelle, John Franklin,	L. I. Coll. Hosp., '71,	Hartford.
Axtelle, Thomas Lincoln,	Bellevue, '81,	Waterbury.
Babcock, William Rowland,	Univ. N. Y., '94,	New London.
Bacon, Francis,	Yale, '53,	New Haven.
Bacon, Leonard Woolsey, Jr.,	Yale, '92,	New Haven.
Bacon, William Turner,		
B.A., Yale, '68, M.A., '71,	Univ. N. Y., '71,	Hartford.
Bailey, George Cornelius,	Univ. N. Y., '86,	Hartford.
Bailey, John Elmore,	P. & S., N. Y., '85,	Middletown.
Bailey, Michael Angelo,	P. & S., Balt., '93,	Hartford.
Baker, Frederick Birdseye,	Univ. Md., '88,	E. Norwalk.
Baker, John Francis,	L. I. Coll. Hosp., '89,	New Haven.
Baldwin, Edward Robinson,	Yale, '90,	Cromwell.
Banks, Charles Lincoln,	P. & S., N. Y., '91,	Bridgeport.
Barber, Alvin Elizur,	Berkshire, '54,	Bethel.
Barber, Walter Lewis,	Bellevue, '73,	Waterbury.
Baribault, Arthur Octave,	Vict. Med. Col., '89,	New Haven.
Barnes, Irving Ferguson,	Univ. N. Y., '90,	Collinsville.
Barnes, Lewis, B.A., M.A., '47,	Buffalo Univ., '50,	Oxford.
Barnett, John Frederick,	Yale, '69,	West Haven.
Barnum, Walter Milo,	P. & S., N. Y., '83,	Kent.
Barrows, Benj. Safford, Ph.B., '83,	Univ. N. Y., '87,	Hartford.
Barry, Robert Joseph,	P. & S., N. Y., '90,	Ansonia.
Bassett, Clarence Wheeler,	Univ. N. Y., '82,	Sharon.
Peach, Charles Coffing,	P. & S., N. Y., '82,	Hartford.
Beach, Edward Charles,	Yale, '88,	Milford.
Beckwith, Frank Edwin,		
M.A., '81,	P. & S., N. Y., '71,	New Haven.
Beebe, George Hoxie,	Univ. N. Y., '78,	Guilford.
Belden, Charles Ogilvie,	P. & S., N. Y., '82,	Litchfield.

In preparing this list the Secretary has followed the list in the Proceedings of 1892, made with great care and labor by Dr. J. B. Lewis for the Centennial year. It may be relied upon as being correct.

Name.	Medical Graduation.	P. O. Address.
Bell, George Newton,	Yale, '92,	Hartford.
Bell, Newton Stephen,	Univ. Vt., '64,	Windsor.
Bellosa, Frederick,	Yale, '72,	New Haven.
Benedict, Frank Allen,	P. & S., N. Y., '87,	Seymour.
Benedict, George Willis, B.A., '74,	P. & S., N. Y., '78,	So. Norwalk.
Benedict, John Howe,	Conn. Med. Soc., '58,	Danbury.
Benedict, John Mitchell,	Univ. N. Y., '82,	Waterbury.
Bennett, Clayton Powers,	P. & S., N. Y., '90,	Danbury.
Bennett, Farnham Orris,	Berkshire, '59,	Willimantic.
Bidwell, Edwin,	Yale, '47,	Deep River.
Bidwell, John Welch,	Berkshire, '46,	W. Winsted.
Bill, Curtis Harvey,	Univ. N. Y., '59,	Bridgeport.
Bishop, Louis Bennett, B.A., '86,	Yale, '88,	New Haven.
Bishop, Russell Tomlinson,	Bellevue, '93,	Bridgeport.
Bishop, Timothy Huggins,	Yale, '60,	New Haven.
Bissell, Evelyn Lyman,	Yale, '60,	New Haven.
Bissell, Jerome Samuel,	Yale, '94,	Hotchkissville.
Bissell, William, B.A., '53,	Yale, '56,	Lakeville.
Blodget, Henry,	Bellevue, '81,	Bridgeport.
Bloomfield, Thomas Blanch,	P. & S., N. Y., '76,	Westbrook.
Bohannon, Charles Gordon,	Univ. N. Y., '78,	So. Norwalk.
Bolles, John Calvin,	Vt. Med. Col., '40,	Montville.
Bolton, James Robert,	Univ. N. Y., '86,	Litchfield.
Boucher, John Bernard,	P. & S., Balt., '94,	Hartford.
Bouton, George Beriah,	Y., '56; N. Y. M., '56,	Westport.
Bowers, William Cutler,	P. & S., N. Y., '77,	Bridgeport.
Bradley, William Lockwood, B.A., '60,	Yale, '64,	New Haven.
Bradstreet, Edward Thomas, B.A., '74,	P. & S., N. Y., '77,	Meriden.
Braman, Francis Nelson,	Bellevue, '66,	New London.
Brayton, Charles Erskine,	P. & S., N. Y., '73,	Stonington.
Brewer, Edward Pliny, Ph.D.,	Dartmouth, '79,	Norwich.
Bromley, Daniel Tyler,	Yale, '67,	Hartford.
Brooks, Frank Terry, B.A., Yale,	P. & S., '93,	Greenwich.
Brown, David Chester,	Yale, '84,	Danbury.
Brown, Charles Henry,	Univ. N. Y., '93,	Waterbury.
Brown, Orlando,	Yale, '51,	Washington.
Browne, William Tyler, Ph.B., '78,	Harvard, '82,	Norwich.
Brownlee, Harris Fenton,	P. & S., N. Y., '88,	Danbury.
Brownson, William Greene, M.A.,	Univ. N. Y., '65,	Noroton.
Bulkley, Lucius Duncan, M.A.,	P. & S., N. Y., '69,	Norfolk.
Buel, John Laidlaw,	P. & S., N. Y., '88,	Litchfield.
Bull, John Norris,	P. & S., N. Y., '78,	Plainville.
Bull, Thomas Marcus,	P. & S., N. Y., '87,	Naugatuck.
Bunce, Henry Clinton,	Yale, '50,	Glastonbury.
Bunce, Philip Dibble, A.B., Yale, '88,	P. & S., N. Y., '91,	Hartford.
Eunnell, Wilbur Pitkin,	Univ. N. Y., '84,	New Britain.
Bunnell, William Henry,	P. & S., N. Y., '79,	Bridgeport.
Burchard, William Metcalf,	Georgetown, '66,	Uncasville.
Burke, George Whitney, B.A., '91,	Yale, '43,	Middletown.
Burke, William Craige,	L. I. Col. Hosp., '75,	So. Norwalk.
Burke, William Patrick John,	Yale, '90,	New Haven.
Burnap, Sidney Rogers, A.B., Union, '58,	P. & S., N. Y., '62,	W'ds'r Locks.
Burns, Edward,	Univ. N. Y., '82,	New Britain.
Burwell, Jeremiah,	Berkshire, '39,	New Hartford.
Bush, Charles Ellsworth,	Yale, '94,	Cromwell.
Butler, Charles Voorhes,	Univ. N. Y., '93,	Norwich.

Name.	Medical Graduation.	P. O. Address.
Cahill, Joseph Henry,	Balt. Univ., '92,	Hartford.
Cahill, Thomas Matthew,	Yale, '88,	New Haven.
Caldwell, William Elry,	Balt. Md. Col., '95,	W. Suffield.
Calef, Jeremiah Francis, B.A., '77,	Yale, '80,	Middletown.
Camp, Charles Welford,	Univ. N. Y., '75,	Canaan.
Campbell, Arthur Joseph,	P. & S., Balt., '85,	Middletown.
Campbell, James,	Univ. Vt., '71,	Hartford.
Cannon, Frederick Miller,	Univ. N. Y., '67,	Waterbury.
Carmalt, William Henry,		
M.A., '81,	P. & S., N. Y., '61,	New Haven.
Carrington, Charles,	P. & S., N. Y., '60,	Farmington.
Case, Ida R. Gridley, B.A., Wes.		
Univ., '86; M.A., Wes., '88,	P. & S., Boston, '89,	Collinsville.
Cassidy, Patrick,	Univ. Vt., '65,	Norwich.
Castle, Frank Edwin,	Yale, '70,	Waterbury.
Chamberlain, Myron Newton,		
B.A., '57,	Yale, '66,	Cheshire.
Chapman, Albert Taylor,	P. & S., N. Y., '64,	Old Mystic.
Chapman, Sherman Hartwell,		
B.A., '53, M.A., '66,	P. & S., N. Y., '69,	New Haven.
Cheney, Benjamin Austin,		
B.A., '88,	Yale, '90,	New Haven.
Chipman, Edward Clifford,	P. & S., N. Y., '91,	Niantic.
Churchill, Asa Hopkins,	Yale, '57,	Meriden.
Clark, Arthur Norman,	P. & S., N. Y., '83,	So. Norwalk.
Clark, Franklin Pierce,	P. & S., N. Y., '76,	Danbury.
Clark, Robert Moses,	Univ. Pa., '91,	New Britain.
Clary, George, A.B., '52,	N. Y., '57; Yale, '57,	New Britain.
Clason, Abraham Travis,	Univ. N. Y., '66,	Danbury.
Cleaveland, Daniel Athearn,	Bowdoin, '56,	Middletown.
Coates, Franklin Avery,		
A.B., '72; A.M., '75,	P. & S., N. Y., '75,	Mystic.
Cogswell, William Badger,	Bellevue, '81,	Stratford.
Coholan, Michael James,	Univ. N. Y., '65,	New Britain.
Coleburn, Arthur Burr,	P. & S., N. Y., '90,	Middletown.
Comings, Benjamin Newton,	Dartmouth, '42,	
B.A., M.A.,	Castleton, Vt., '45,	New Britain.
Conkey, Caroline Root,	W. Med., N. Y., '81,	Waterbury.
Converse, George Frederick,	Yale, '87,	New Haven.
Coogan, Joseph Albert,	Bellevue, '76,	W'ds'r Locks.
Cook, Ansel Granville,	P. & S., N. Y., '87,	Hartford.
Cooley, Myron Lynus,	Buffalo, '86,	Southbury.
Cooper, Louis Edward,		
Ph.B., '84,	Yale, '86,	Ansonia.
Cornwall, Edward Thomas,	P. & S., N. Y., '81,	Cheshire.
Coudert, Frank Edmonds, Ph.D.,	Univ. N. Y., '90,	Middletown.
Cowell, George B.,	P. & S., N. Y., '88,	Bridgeport.
Craig, Charles Franklin,	Yale, '94,	Danbury.
Crane, Augustin Averill,		
B.A., '85,	Yale, '87,	Waterbury.
Crary, David,	Yale, '69,	Hartford.
Crem, Lawrence Michael,	Univ. N. Y., '81,	New Britain.
Cressy, Noah, Ph.D.,	Berkshire, '62,	Hartford.
Crighton, Andrew John,	P. & S., Balt., '91,	Willimantic.
Crofton, Joseph Richard,	P. & S., N. Y., '89,	New London.
Crossfield, Frederick Solon,	Bellevue, '78,	Hartford.
Crothers, Thomas Davison,	Albany, '65,	Hartford.
Crowley, William Holmes,	Buf. Med. Col., '90,	Collinsville.
Curtiss, William Martin Stanley,	P. & S., Balt., '93,	Cornwall B.
Daggett, William Gibbons,		
B.A., '80,	Univ. Pa., '84,	New Haven.

Name.	Medical Graduation.	P. O. Address.
Darby, Charles Sinclair,	Charl'st'n Med., '60,	Stamford.
Darby, Charles Sinclair, Jr.,	Univ. N. Y., '90,	Stamford.
Darling, Asael Ebenezer,	Harvard, '72,	Killingly.
Dart, Frederick Howard,	P. & S., N. Y., '84,	Niantic.
David, Adelard David,	Dartmouth, '89,	Willimantic.
Davis, Charles Henry Stanley,	Univ. N. Y., '66,	Meriden.
Davis, Edwin Taylor,	Univ. Vt., '88,	Ellington.
Davis, Elias Wyman,		
B.A., Yale, '80,	Yale, '92,	Seymour.
Davis, Emory Hawkins,	Univ. Vt., '72,	Moosup.
Davis, Gustav Pierpont,		
B.A., '66,	P. & S., N. Y., '69,	Hartford.
Davis, Warren Russell,	Univ. Vt., '82,	Voluntown.
Davison, Luther Augustus,	Univ. N. Y., '82,	Hartford.
Day, Fessenden Lorenzo, B.A.,	Bellevue, '93,	Bridgeport.
Day, Loren True,	Yale, '80,	Westport.
Dean, Henry Spalding,	Jefferson, '52,	So. Coventry.
Dean, Horace Camillus,	Univ. N. Y., '85,	New Britain.
DeForest, Louis Shepard,		
B.A., '79; M.A., '91,	Univ. Jena, '85,	New Haven.
Delaney, William Joseph,	McGill Univ., '87,	Naugatuck.
Delesdernier, Horace William,	Univ. Vt., '85,	Meriden.
Dennis, Frederick Shepard, B.A.,		
Yale, '72, F.R.C.S.,	Bellevue, '74,	Norfolk.
DeWolfe, Daniel Charles,	Univ. Vt., '86,	Bridgeport.
Dibble, Frederick Levi,	Yale, '59,	New Haven.
Dickerman, Wilton Elias,	Yale, '93,	Hartford.
Dickinson, Francis Lemuel,	Yale, '40,	Rockville.
Dimon, John Nicoll,	L. I. Coll.Hosp., '83,	New London.
Donahue, James Francis,	Univ. Vt., '92,	New Britain.
Donaldson, William Henry,	Univ. N. Y., '81,	Fairfield.
Dooley, John Thomas,	Univ. N. Y., '87,	Manchester.
Douglass, Edmund Peaslee,	Univ. N. Y., '89,	Groton.
Doutteil, Henry,	Yale, '79,	New Britain.
Dowling, John Francis,	L. I. Coll.Hosp., '90,	Hartford.
Down, Edwin Augustus,	P. & S., N. Y., '87,	Hartford.
Downey, Roger Charles,	Univ. Vt., '92,	Portland.
Downs, Frederick Bradley,	Univ. N. Y., '78,	Bridgeport.
Drake, Norman Lucie,	Univ. N. Y., '91,	Lebanon.
Dunham, Martin Van Buren,	Harvard, '67,	G'field Hill.
Dwyer, John,	Univ. N. Y., '71,	Hartford.
Edgerton, Francis Daniels,	Univ. Vt., '61,	
A.M., '61,	P. & S., N. Y., '64,	Middletown.
Eggleston, Jeremiah Dewey,	P. & S., N. Y., '79,	Meriden.
Elcock, Harry Alfred,	Yale, '91,	New Haven.
Eliot, Gustavus, B.A., '77;		
A.M., '82,	P. & S., N. Y., '80,	New Haven.
Ellis, Richard,	P. & S., N. Y., '88,	Danbury.
Ellsworth, Pinkney Webster,		
B.A., Yale, '36; M.A., Yale, '39,	P. & S., N. Y., '39,	Hartford.
Elmer, Oliver Edward,	P. & S., Balt., '91,	Hartford.
Ensign, Robert Eleazer,	Albany, '57,	Berlin.
Evans, Alexander William,		
Ph.B., '90,	Yale, '92,	New Haven.
Ewing, Andrew Melville, C.M.,		
Trin. Univ., '86,	M. R. C. S., '88,	Fairfield.
Fenn, Ava Hamlin,	P. & S., Balt., '86,	Meriden.
Ferguson, George Dean,	Univ. N. Y., '79,	Thomaston.
Ferrin, Carlisle Franklin, B.A.,		
Univ. Vt., '91,	P. & S., N. Y., '95,	New London.
Ferris, Harry Burr, B.A., '87,	Yale, '90,	New Haven.
Field, Albert,	L. I. Coll.Hosp., '67,	E. Hampton.

Name.	Medical Graduation.	P. O. Address.
Finch, George Terwilliger, B.A., M.A., '78,	{ Hobart, '75, { Bellevue, '77,	Thomp'nville.
Fisher, William Edwin,	Univ. Pa., '76,	Middletown.
Fiske, Isaac Parsons,	Univ. N. Y., '75,	Waterbury.
Fitzgerald, Edward,	P. & S., Balt., '84,	Bridgeport.
Fleischner, Henry,	Yale, '78,	New Haven.
Flint, Eli Percival,	Yale, '79,	Rockville.
Follansbee, Willard Francis,	P. & S., Chic., '86,	Danbury.
Foote, Charles Jenkins, B.A., '83,	Harvard, '87,	New Haven.
Ford, George Skiff,	Bellevue, '93,	Bridgeport.
Ford, William J.,	Univ. N. Y., '81,	Washington.
Foster, John Pierpont Codring- ton, B.A., '69,	Yale, '75,	New Haven.
Foster, Warren Wooden,	Harvard, '82,	Putnam.
Fox, Charles Anson,	P. & S., N. Y., '81,	E. Hartford.
Fox, Charles James,	Univ. N. Y., '76,	Willimantic.
Fox, Edward Gager,	Univ. N. Y., '83,	Wethersfield.
Fox, Morton Earl,	L. I. Coll.Hosp., '93,	Montrose.
Fox, Roswell,	Univ. N. Y., '47,	Wethersfield.
French, Eugene Cowles,	Univ. Mich., '82,	Watertown.
French, Howard Truman,	P. & S., N. Y., '91,	Deep River.
French, Wm. Freeman, B.A., M.A.,	Univ. N. Y., '84,	Noroton.
Freney, John Daniel,	L. I. Coll.Hosp., '93,	Waterbury.
Froelich, Charles Edward, M.A., Univ. Copenhagen, '64,	Copenhagen, '70,	Hartford.
Frost, Charles Warren Selah,	P. & S., N. Y., '80,	Waterbury.
Fuller, Horace Smith, Amheist, B.A., '58; A.M., '61,	P. & S., N. Y., '65,	Hartford.
Galvin, William,	Univ. Vt., '92,	Meriden.
Garlick, Samuel Middleton, B.A., Dart., '74,	Harvard, '77,	Bridgeport.
Gartland, John Lawrence,	Univ. N. Y., '91,	Meriden.
Gay, George Clifton,	Univ. Mich., '90,	Waterbury.
Gaylord, Chas. Woodward, B.A., '70,	Yale, '72,	Branford.
Gaynor, Louis Joseph,	Univ. N. Y., '91,	New Haven.
Geib, Henry Philip,	Bellevue, '69,	Stamford.
Gilbert, Samuel Dutton, B.A., '69,	Yale, '71,	New Haven.
Gillin, Charles Adelbert,	Univ. N. Y., '83,	Berlin.
Gilnack, Frederick,	P. & S., N. Y., '67,	Rockville.
Girard, Charles Hermenegilde,	Vict., Montreal, '90,	Willimantic.
Gladwin, Elllen Hammond,	W. Med., N. Y., '72,	Hartford.
Godfrey, Charles Cartlidge,	{ Dartmouth, '83, { Yale, '88,	Bridgeport.
Gold, James Douglass, Ph.B.,	P. & S., '91,	Bridgeport.
Goodenough, Edward Winches- ter, B.A., Yale, '87,	Yale, '93,	Waterbury.
Goodrich, Alfred Russell,	Berkshire, '46,	Vernon.
Goodwin, Ralph Schuyler,	P. & S., N. Y., '66,	Thomaston.
Goodyear, Robert Beardsley,	Yale, '68,	North Haven.
Gorham, Andrew Bennett,	Yale, '79,	Wilton.
Gorham, Frank,	Yale, '76,	Lyons Plain.
Grannis, John Henry,	Yale, '68,	Old Saybrook.
Graves, Charles Burr, B.A., '82,	Harvard, '86,	New London.
Graves, Frederick Chauncey,	Univ. N. Y., '88,	Bridgeport.
Gray, William Henry,	P. & S. N. Y., '89,	Old Mystic.
Gray, William Wetmore, B.S., Dickinson, '85,	B. S., Dickinson, '85, Bellevue, '90,	Bridgeport.
Gregory, James Glynn, B.A., '65,	P. & S., N. Y., '68,	Norwalk.
Griggs, Edward Luther,	L. I. Coll.Hosp., '64,	Waterbury.
Griggs, Oliver Burnham,	Univ. N. Y., '47,	Willimantic.
Griswold, Edward Hammond,	Univ. N. Y., '78,	E. Hartford.

Name.	Medical Graduation.	P. O. Address.
Griswold, Frederick Pratt,	P. & S., N. Y., '76,	Meriden.
Griswold, Hamilton Byron,	Univ. Vt., '86,	Gayl'dsville.
Griswold, Julius E.,	Univ. N. Y., '78,	Portland.
Griswold, Richard Sill,	Bellevue, '96,	Hartford.
Griswold, Rufus White,	P. & S., N. Y., '54,	Rocky Hill.
Griswold, Wm. Loomis, Ph.B., '81,	P. & S., N. Y., '85,	Greenwich.
Guild, Frank Eugene,	L. I. Coll.Hosp., '85,	Windham.
Goldstein, Frederick Carl,	Yale, '93,	Ansonia.
Hall, Edward Dormanio,	Harvard, '73,	Meriden.
Hall, Joseph Barnard,	Yale, '92,	Hartford.
Hallock, Frank Kirkwood,		
A.B., A.M., '82,	P. & S., N. Y., '85,	Cromwell.
Hallock, Winthrop Bailey,	L. I. Coll.Hosp., '64,	Cromwell.
Hamant, Irving Lewis,	L. I. Coll.Hosp., '90,	Norfolk.
Hamilton, Charles Allen,	Univ. Vt., '86,	Waterbury.
Hammond, Henry Louis, Ph.B., '64,	Harvard, '66,	Killingly.
Hanchett, Thatcher Swift,	Bellevue, '64,	Torrington.
Harley, Mary,	} Wom. Col. N. Y.	
	} Infirmary, '92,	Middletown.
Harriman, Patrick Henry,	Univ. N. Y., '84,	Norwich.
Harris, George Robert,	P. & S., N. Y., '85,	Norwich.
Hart, Charles Remington,	P. & S., N. Y., '59,	Bethel.
Haskell, Charles Nahum,	Univ. Vt., '90,	Bridgeport.
Hastings, Panet Marshall,		
A.B., '38; A.M., Hamilton, '81,	P. & S., N. Y., '42,	Hartford.
Haven, William Chadbourne,	Univ. N. Y., '77,	Coventry.
Hawkes, Wm. Whitney, B.A., '79,	Yale, '81,	New Haven.
Hawley, George Rufus,	L. I. Coll.Hosp., '92,	Danbury.
Hayes, John Francis,	Univ. N. Y., '79,	Waterbury.
Hazen, Henry C.,	P. & S., N. Y., '92,	Haddam.
Hazen, Miner Comstock,	Univ. Mich., '55,	Haddam.
Heady, Elias Buel,	Yale, '72,	Milford.
Hewes, Frank William,	Univ. Vt., '94,	Groton.
Heyer, Harold Hankinson,	Univ. N. Y., '87,	New London.
Hexamer, Carl Reisig, B.S., '83,	P. & S., N. Y., '86,	Stamford.
Hibbard, Nathaniel, A.B., '78,	Harvard, '82,	Dan'lsonville.
Higgins, Royal Lacey,	Bellevue, '67,	Norwalk.
Higgins, William Lincoln,	Univ. N. Y., '90,	So. Coventry.
Hill, Charles Edwin, B.A., '76,	Harvard, '79,	E. Killingly.
Hill, Edwin Allen,	Harvard, '50,	E. Killingly.
Hill, Seth,	Yale, '66,	Stepney.
Hills, Thomas Morton,	Yale, '63,	Willimantic.
Holbrook, Lowell,	Univ. N. Y., '49,	Thompson.
Holmes, Arthur Almond,	Harvard, '65,	Bridgeport.
Holmes, George James,	Albany, '82,	New Britain.
Holmes, Walter Hamilton, A.B., '75,	Harvard, '79,	Waterbury.
Horton, William Wickham,	Univ. N. Y., '79,	Bristol.
Hotchkiss, Norton R.,	Univ. Md., '91,	New Haven.
Hough, Henry Wightman,	Yale, '36,	Putnam.
Houghton, Simon Willard,	Bellevue, '79,	Hazardville.
Howard, Arthur Wayland,	Univ. N. Y., '90,	Wethersfield.
Howard, John,	Dartmouth, '81,	Hartford.
Howd, Salmon Jennings,	Jefferson, '83,	Winsted.
Howe, Harmon George,	} Univ. Vt., '73,	
	} P. & S., N. Y., '75,	Hartford.
Hoyt, Curtis Clark,	P. & S., N. Y., '87,	Bridgeport.
Hubbard, Charles Henry,	Yale, '60,	Essex.
Hubbard, Robert,	Yale, '51,	Bridgeport.
Hubbard, Stephen Grosvenor,		
M.A., '60,	Dartmouth, '43,	New Haven.

Name.	Medical Graduation.	P. O. Address.
Hudson, William Miller, B.A., Yale, '53,	Jefferson, '55,	Hartford.
Hughes, Oliver John Davis, Ph.D., Univ. Heideiburg, '71, M. S., London,	L. I. Coll. Hosp., '75, Univ. N. Y., '89,	Meriden. Winsted.
Hulbert, William Sharon,	Yale, '76,	Norwalk.
Huntington, Samuel Henry,	'82, Univ. Vt., '91,	Somers.
Hurd, Alonzo L., B.S., Me., '82,		
Hurlbut, Augustus Moen, B.A., '76,	P. & S., N. Y., '79, Yale, '92,	Stamford. New Haven.
Husinsky, Moses Jacob,		
Ingalls, Phineas Henry, A.B., '77; A.M., Bowdoin, '85,	P. & S., N. Y., '80,	Hartford.
Irving, Samuel Wellington,	Yale, '91,	New Britain.
Isham, Oliver Kingsley,	Univ. N. Y., '88,	Hartford.
Ives, Robert Shoemaker, B.A., '64; M.A.,	Yale, '66,	New Haven.
Jarvis, George Cyprian,	Univ. N. Y., '60,	Hartford.
Jennings, George Herman,	L. I. Coll. Hosp., '75,	Jewett City.
Johnson, Edwin Hines,	Univ. Vt., '88,	Naugatuck.
Johnson, Frederick Eugene,	Univ. N. Y., '69,	Mansfield.
Johnson, John William,	P. & S., Balt., '93,	Torrington.
Johnson, Marcus Morton, Ph.B., Brown, '70,	Univ. N. Y., '77,	Hartford.
Jones, Daniel Albion, B.A., Yale, '84; D.M.D., Harvard, '89,	Yale, '92,	New Haven.
Judd, Etta May Hadley,	{ Woman's Med. Coll., Phila.,	Litchfield.
Judson, Walter, B.A., '64; M.A., '67,	P. & S., N. Y., '70,	New Haven.
Judson, William Henry,	Jefferson, '78,	Dan'lsonville.
Kane, Thomas Francis,	Bellevue, '87,	Hartford.
Kean, Mrs. L. Darnstadt,	Wom. Med., Pa., '87,	Hartford.
Kendall, John Calvin, B.A., '70,	P. & S., N. Y., '75,	Norfolk.
Keniston, James Mortimer,	Harvard, '71,	Middletown.
Kennedy, John Timothy,	Univ. N. Y., '94,	So. Norwalk.
Kent, John Bryden,	Harvard, '69,	Putnam.
Kimball, Rush Wilmot, A. B., '87, Williams,	L. I. Coll. Hosp., '90,	Norwich.
Kindred, John Joseph,	{ Louisville Hosp. Med. Coll., '89,	Darien.
Klenke, Henry Frederick,	Univ. N. Y., '92,	New Haven.
Knight, Charles Milo,	Louisville, '93,	Chaplin.
Knight, George Henry,	P. & S., N. Y., '86,	Lakeville.
Knight, William Ward,	Univ. N. Y., '76,	Hartford.
Korn, William Alfred,	Yale, '92,	Norwich.
Lamb, Chauncey Stafford,	Buffalo, '93,	New Haven.
Lambert, Benjamin Lott,	Univ. N. Y., '83,	New Haven.
Law, Homer Lyon,	Jefferson, '69,	Hartford.
Lawson, George Newton, B.A., '90,	Yale, '92,	M. Haddam.
Lawrence, George W.,	Yale, '90,	Cromwell.
Lawton, Franklin Lyman, Ph.B., Yale, '90,	Yale, '93,	Hartford.
Lauder, Robert, M.A.,	Yale, '71,	Bridgeport.
LaPierre, Julian,	Bellevue, '71,	Norwich.
LaPointe, John William Henry,	{ Laval Univ., Montreal, '92,	Meriden.
LaRue, Omer,	Vict., Montreal, '71,	Putnam.
Lawlor, Timothy Chris. Ambrose,	Bellevue, '92,	Rockville.
Leavenworth, Daniel Carroll,	Yale, '65,	New Haven.
LeClair, Charles Joseph,	Victoria, '87,	Dan'lsonville.

Name.	Medical Graduation.	P. O. Address.
Lee, Frank Herbert,	Albany, '88,	Canaan.
Lemmer, George Edward,	Bellevue, '85,	Danbury.
Leonard, Elbridge Knowlton,	Conn. Med., S'y., '66,	Rockville.
Leverty, Robert Gordon,	Univ. N. Y., '95,	Bridgeport.
Lewis, George Francis, B.A., '64,	Yale, '65,	Collinsville.
Lewis, George Frederick, B.A., '77,	Yale, '84,	Stratford.
Lewis, John Benjamin,	Univ. N. Y., '53,	Hartford.
Lindsley, Charles Augustus, B.A., '49; M.A.,	Yale, '52,	New Haven.
Lindsley, Chas. Purdy, Ph.B., '75,	Yale, '78,	New Haven.
Livingston, Joseph Alexander,	L. I. Hosp., '90,	W. Cornwall.
Lockhardt, Reuben Arthur,	Yale, '91,	Bridgeport.
Look, Frank Byron,	Bowdoin, '84,	Middletown.
Loomis, Francis Newton, B.A., '81,	Yale, '83,	Birmingham.
Loveland, John E., A.B., '89,	Harvard, '92,	Middletown.
Lowe, Henry Russell,	Dartmouth, '82,	Woodstock V.
Lowe, Russell Walter,	Univ. N. Y., '89,	Ridgefield.
Luby, John Francis, Ph.B., '76,	P. & S., N. Y., '78,	New Haven.
Lynch, John Charles,	Univ. N. Y., '86,	Bridgeport.
Lyon, Edwin Bradbury,	Berkshire, '62,	New Britain.
Lyons, Andrew Wolff,	Columbus, '76,	Bridgeport.
MacLaren, William Stevenson,	P. & S., N. Y., '89,	Litchfield.
Maher, Stephen John,	Yale, '87,	New Haven.
Mailhouse, Max, Ph.B., '76,	Yale, '78,	New Haven.
Maitland, Lewis,	Univ. Pa., '95,	Middletown.
Mansfield, Howard Parker,	L.I. Coll.Hosp., '93,	Georgetown.
Marcy, Robert Adrian,	Univ. N. Y., '82,	New Preston.
Marlles, Hubert Walter,	Louisville Med. Coll., '93,	Hartford.
Marsh, Arthur Washburn,	Univ. Vt., '82,	Westville.
Martin, Thomas Francis,	Univ. N. Y., '74,	Bridgeport.
Mason, Jarvis King, Yale, B.A., '55; M.A., '59,	Harvard, '61,	Suffield.
Mathewson, Earl,	P. & S., N. Y., '79,	Durham.
May, George William,	Milwaukee, '95,	Willimantic.
May, Jacob,	Rush, Chicago, '76,	Bridgeport.
Mayberry, Franklin Hayden,	Univ. Vt., '85,	Burnside.
Mayer, Nathan,	Cincinnati, '57,	Hartford.
McCabe, Edward Michael, B.A., '84,	Yale, '87,	New Haven.
McDonald, Edward Walsh,	Univ. N. Y., '71,	Waterbury.
McDonnell, Ralph Augustine, B.A., '90,	Yale, '92,	New Haven.
McGaughey, James David,	Jefferson, '70,	Wallingford.
McIntosh, James Fabien,	Victoria, '87,	N.G'sv'n'r'd'le.
McKnight, Everett James, B.A., Yale, '76,	P. & S., N. Y., '79,	Hartford.
McNair, Robert Hamilton,	Jefferson, '90,	New Haven.
McNeil, Rollin,	Yale, '62,	New Haven.
Mead, Kate Campbell,	(Wom. Med. Coll., Phila., '88,	Middletown.
Meek, James Albert,	McGill Univ., '75,	Stamford.
Meeks, Harold Albert,	Bellevue, '90,	Meriden.
Miles, Harry Shillingford, Ph.G., N. Y., '88,	P. & S., N. Y., '91,	Bridgeport.
Miller, George Root,	P. & S., Balt., '88,	Hartford.
Minor, George Maynard,	L.I. Coll.Hosp., '85,	Waterford.
Moody, Mary Blair,	Buffalo, '76,	New Haven.

Name.	Medical Graduation.	P. O. Address.
Moody, Robert Orton, B.S., Cornell, '91,	Yale, '94,	New Haven.
Moore, Howard Doolittle,	Bellevue, '87,	Riverton.
Moore, James Albert, B.A., Yale, '92,	Yale, '94,	New Haven.
Morgan, William Dennison, A.B., Trinity, '72,	P. & S., N. Y., '76,	Hartford.
Morgan, William Gerry, B.A., Dart., '90,	Univ. Pa., '93,	Southport.
Morrell, Frederick Augustus, B.A., Oberlin, '91; M.A.,	L.I. Coll.Hosp., '85,	Putnam.
Moulton, Edward Seymour, B.A., Oberlin, '91, M.A.,	Yale, '94,	New Haven.
Munger, Carl Eugene, Ph.B., '80,	P. & S., N. Y., '83,	Waterbury.
Munger, Elisha,	Yale, '75,	New London.
Munger, Walter Seward,	Yale, '55,	Watertown.
Munson, Byron Wooster,	Yale, '69,	Sharon.
Murphy, James,	Univ. Pa., '95,	Portland.
Murphy, Michael Daniel,	Bellevue, '84,	Middletown.
Murphy, Walter Graham,	Alb'y Med.Coll., '90,	E. Hartford.
Nelson, Abiel Ward,	Harvard, '61,	New London.
Newton, Cyrus Brownlie,	Yale, '56,	Stafford S'gs.
Newton, Matthew Turner,	Yale, '51,	Suffield.
Nichols, Edward Payson, A.B., '48; A.M., '51,	P. & S., N. Y., '52,	Killingworth.
Nickerson, Nehemiah,	N.Y. Med. Coll., '57,	Meriden.
Nicoll, John,	Yale, '54,	New Haven.
Noble, Henry Smith, A.B., '59,	P. & S., N. Y., '71,	Middletown.
Nolan, Daniel Andrew, Ph.G., '94,	Med.Chir. Col., Pa.,	Middletown.
North, James Howard,	L.I. Coll. Hosp., '73,	Goshen.
North, John Leopold,	Louisville, '94,	Avon.
Noyes, Selden Walkley,	Univ. Pa., '68,	Haddam.
Ober, George Eugene,	Univ. Vt., '90,	Bridgeport.
O'Connell, Thomas James,	P. & S., Balt., '92,	E. Hartford.
O'Connor, Matthew Charles, A.B., '69,	P. & S., N. Y., '73,	New Haven.
O'Connor, Patrick Thomas,	Bellevue, '92,	Waterbury.
O'Flaherty, John,	Albany, '64,	Hartford.
O'Hara, Bernard Augustine,	Bellevue, '82,	Waterbury.
Olmstead, James, B.A., '72,	Yale, '74,	Middletown.
Oshorn, George Wakeman, B.A., '84,	P. & S., N. Y., '87,	Bridgeport.
Osborne, Oliver Thomas,	Yale, '84,	New Haven.
O'Sullivan, Thomas Jefferson,	Bellevue, '76,	Birmingham.
Overlock, Selden Barden,	Bellevue, '89,	Pomfret.
Paddock, Lewis Sloat, M.A.,	N.Y. Med. Coll., '54	Norwich.
Page, Charles Ithemor,	P. & S., N. Y., '90,	Litchfield.
Park, Charles Edwin,	Yale, '81,	New Haven.
Parker, Julian Newell,	Yale, '67,	S. M'chester.
Parker, Theodore Raymond,	Univ. N. Y., '80,	Willimantic.
Parmelee, George Luther, D.M.D.,	L.I. Coll.Hosp., '69,	Hartford.
Parsons, Edward Field, A.B., Williams, '48,	P. & S., N. Y., '58,	Thomp'ville.
Peck, Anthony, B.A., '72,	Univ. N. Y., '75,	Norwich.
Peck, George Augustus,	P. & S., N. Y., '91,	Meriden.
Peck, Robert Ellsworth, Ph.B., Yale, '90,	Yale, '93,	New Haven.
Peckham, Lucy Creemer,	Wom.Med., Pa., '85,	New Haven.
Perkins, Charles Harris,	P. & S., N. Y., '91,	Norwich.
Perkins, William Sheldon Clark,	P. & S., N. Y., '60,	Norwich.

Name.	Medical Graduation.	P. O. Address.
Philip, Rosavelle Gardner,	Wom. Med. Coll., N. Y. Inf., '75,	Stamford.
Phillips, Alfred Noroton,	P. & S., N. Y., '83,	Stamford.
Phinney, Elisha,	Yale, '35,	Yantic.
Pierce, Elbridge Worthington,	Univ. N. Y., '85,	Meriden.
Pierson, Samuel,	P. & S., N. Y., '81,	Stamford.
Pike, Ezra Barker,	Bowdoin, '97,	Abington.
Pinney, Royal Watson,	P. & S., N. Y., '88,	Derby.
Pirritte, Frederick Winchelle,	Univ. Toronto, '93,	New Haven.
Pitman, Edwin Parker, B.A., '86,	Dartmouth, '91,	New Haven.
Platt, William Logan,	P. & S., N. Y., '81,	Torrington.
Plumstead, Matthew Woodbury,	Jefferson, '87,	E. Haddam.
Porter, George Loring, B.A., '59,	Jefferson, '62,	Bridgeport.
Porter, Isaac Napoleon, B.A., Lincoln Univ., '90,	Yale, '93,	New Haven.
Porter, William, Jr.,	Chic.Med. Coll., '81,	Hartford.
Potter, Frank Edward,	P. & S., N. Y., '89,	Portland.
Powers, Frederick,	P. & S., N. Y., '70,	Westport.
Pratt, Edward Loomis,	Univ. N. Y., '84,	Winsted.
Pratt, Elias,	P. & S., N. Y., '87,	Torrington.
Purdy, Alexander Marshall,	Univ. Vt., '84,	Mystic.
Rainville, Frederick Edmund,	Univ. Vt., '91,	Wauregan.
Ratttery, Thomas Henry, B.A., '76, M.A., Holy Cross, '86,	{ Worcester, '86, { P. & S., N. Y., '86,	{ { Stafford S'gs.
Randall, William Sherman, Ph.B.,	Yale, '83,	Shelton.
Rankin, Charles Goodrich, A.M., '87, Williams, A.B., '84,	Chic.Med. Coll., '86,	Glastonbury.
Reilly, James Michael,	Yale, '78,	New Haven.
Reynolds, Herbert Sumner,	Univ. N. Y., '81,	Clinton.
Rice, Watson Emmons,	Univ. Mich., '72,	Stamford.
Richards, William Spencer,	Univ. N. Y., '89,	W. Winsted.
Richardson, Dana Putnam,	Harvard, '82,	Sandy Hook.
Richards, Dwight Alphonso,	Yale, '81,	Shelton.
Ring, Henry Wilson, A.B., '79; M.A.,	Me. Med. Coll., '81,	New Haven.
Rising, Henry Martin,	Yale, '68,	S.Glastonb'ry.
Robbins, George Orrin,	Yale, '79,	Waterbury.
Robbins, James Watson,	Bellevue, '80,	Naugatuck.
Roberts, Edward Kilbourne, Ph.B., '78,	Yale, '80,	New Haven.
Robinson, Myron Winslow,	Berkshire, '60,	Colchester.
Robinson, Paul Skiff, PhB., Yale, '89,	Yale, '91,	New Haven.
Robinson, Rienzi,	L.I. Coll.Hosp., '69,	Danielson.
Rockwell, Thomas Francis,	Univ. N. Y., '81,	Rockville.
Rodger, David Robert, A.B., Hamilton, '82,	P. & S., N. Y., '88,	Woodbury.
Rodman, Charles Shepard,	P. & S., N. Y., '68,	Waterbury.
Rogers, Charles Henry, B.A., '44,	Yale, '47,	Cen. Village.
Rogers, Francis Joseph,	Univ. Pa., '73,	Stamford.
Rogers, Frederick,	Univ. N. Y., '63,	Willimantic.
Rogers, Thomas Weaver,	P. & S., N. Y., '90,	New London.
Root, Edward King,	Univ. N. Y., '79,	Hartford.
Root, Joseph Edward, B.S., '76, S.B., Boston Univ.,	P. & S., N. Y., '83,	Hartford.
Rose, John Henry,	Univ. N. Y., '92,	Hartford.
Ruickoldt, Arthur,	Univ. Jena, '65,	New Haven.
Ruland, Fred Davis,	P. & S., N. Y., '89,	Westport.
Russell, Gurdon Wadsworth, Trinity, B.A., '34; M.A., '37,	Yale, '37,	Hartford.

Name.	Medical Graduation.	P. O. Address.
Russell, Thomas Hubbard, Ph.B., Yale, '72.	Yale, '75.	New Haven.
Russell, William Spencer,	Yale, '80,	Wallingford.
Russell, Willis Adams,	Univ. N. Y., '81,	Essex.
Sanford, George Willis,	Berkshire, '36,	Simsbury.
Sanford, Leonard Jacob, M.A., '58,	Jefferson, '54,	New Haven.
Sawtelle, Frederick George,	L.I. Coll.Hosp., '80,	Pomfret.
Schavoir, Frederic,	P. & S., Balt., '87,	Stamford.
Sears, Cushman Allen,	Univ. N. Y., '62,	Portland.
Scaver, Jay Webber, B.A., '80,	Yale, '85,	New Haven.
Sedgwick, James Theodore,	Univ. N. Y., '85,	Litchfield.
Segur, Gideon Cross,	P. & S., N. Y., '82,	Hartford.
Selleck, Nathaniel,	Univ. N. Y., '89,	Danbury.
Sheedy, Bryan DeForest,	Univ. N. Y., '84,	Bridgeport.
Shelton, Gould Abijah, M.A., '91,	Yale, '69,	Shelton.
Shepard, Durell,	Yale, '64,	West Haven.
Shepard, George Reubens,	Yale, '66,	Hartford.
Sherer, Henry Clifford,	Univ. N. Y., '92,	So. Norwalk.
Sherman, Henry Arthur,	Jefferson, '88,	Putnam.
Sherrill, George,	P. & S., '91,	Stamford.
Simmons, Willard Nelson,	Univ. Vt., '89,	Tolland.
Simpson, Frederick Thomas, B.A., Yale, '79,	Me. Med. Coll., '84,	Hartford.
Skinner, Clarence Edward,	Yale, '91,	New Haven.
Smith, Andrew Jackson,	P. & S., N. Y., '63,	Bridgeport.
Smith, Edward Everett,	L.I. Coll.Hosp., '71,	So. Wilton.
Smith, Edward Montrose,	P. & S., N. Y., '82,	Newtown.
Smith, Edward Wier, A.B., Yale, '78,	McGill, Mont., '82,	Meriden.
Smith, Ernest Herman, A.B., Amherst, '85,	P. & S., '89,	Redding.
Smith, Frank Lewis,	Univ. N. Y., '75,	Stafford S'gs
Smith, Frederick Sumner, B.A., Yale, '79,	Yale, '82,	Chester.
Smith, Herbert Eugene, Ph.B., Yale, '79,	Univ. Pa., '82,	New Haven.
Smith, James Jay,	P. & S., Balt., '88,	Willimantic.
Smith, Junius Foster,	L.I. Coll.Hosp., '90,	Brookfield.
Smith, Marvin,	Univ. N. Y., '83,	New Haven.
Smith, Newton Phineas,	P. & S., N. Y., '82,	Norwich.
Smith, Oliver Cotton,	L.I. Coll.Hosp., '83,	Hartford.
Sperry, Frederick Noyes,	Yale, '94,	New Haven.
Spring, Frederick,	Univ. N. Y., '85,	Naugatuck.
Stanley, Charles Everett,	Univ. Pa., '76,	Middletown.
Stanton, George Dallas,	Bellevue, '65,	Stonington.
Stanton, John Gilman, B.A., Amherst, '70,	Wurzburg, '73,	New London.
Staub, George Edwards,	L.I. Coll. Hosp., '93,	New Milford.
Steadman, Willard George,	Bellevue, '74,	Southington.
Stearns, Henry Putnam, B.A., Yale, '53; M.A., '56,	Yale, '55,	Hartford.
Stern, Charles Scymour,	Bellevue, '91,	Hartford.
Stetson, James Ebenezer,	Yale, '81,	New Haven.
Stevens, Henry Burt,	Harvard, '94,	Norwich.
Stevens, John Gale,	Yale, '84,	Monroe.
St. John, Samuel Benedict, B.A., Yale, '66,	P. & S., N. Y., '75,	Hartford.
Stone, Jay Stephen,	P. & S., N. Y., '65,	New Britain.
Storrs, Melancthon, B.A., Yale, '52,	Yale, '53,	Hartford.
Stowe, William Harvey,	Yale, '88,	New Haven.
Strapp, Patrick Francis,	Bellevue, '92,	Seymour.

Name.	Medical Graduation.	P. O. Address.
Stratton, Edward Augustus,	Univ. N. Y., '83,	Danbury.
Street, Philo William,	Univ. Vt., '92,	Suffield.
Strickland, Rial,	Albany, '39,	Enfield.
Strosser, Hermann,	Univ. Berlin, '84,	New Britain.
Sullivan, Daniel Francis,		
A.B., Niagara Univ., '89,	Niagara Univ. '91,	Hartford.
Sumner, Charles Fletcher,	Univ. W. N. Y., '40,	Bolton.
Swain, Henry Lawrence,	Yale, '84,	New Haven.
Swasey, Erastus Perry,	P. & S., N. Y., '69,	New Britain.
Swett, Josiah,	Univ. Vt., '78,	N. Hartford.
Swett, William Plummer,	Univ. Vt., '76,	Terryville.
Swift, Elisha Dean,	Univ. N. Y., '49,	Hamden.
Taft, Charles Ezra,	Harvard, '86,	Hartford.
Tanner, Alfred Herbert,	Bellevue, '74,	Brooklyn.
Taylor, John Clifton,	Mich. Univ., '91,	Scotland.
Tenney, Arthur John,		
Ph.B., Yale, '77,	Yale, '83,	Branford.
Thompson, George,	Me. Med. Coll., '89,	Taftville.
Thompson, Harriet Adaline,	Women's Med. Col.	
	Phila., '95,	Bridgeport.
Thomson, Edward Sanford,	P. & S., N. Y., '92,	New Haven.
Thomson, Hiram Benson,	Trin. Un., Tor., '88,	New London.
Tingley, Witter Kinney,	Bellevue, '86,	Norwich.
Tinker, William Richard,	Univ. N. Y., '80,	S. M'chester.
Topping, Jacob Reed,	Univ. N. Y., '82,	Bridgeport.
Townsend, George Hodgson,	Bellevue, '93,	Branford.
Townsend, Jos. Hendley, B.A.,		
Yale, '85,	Yale, '87,	New Haven.
Tracy, Andrew William,	McGill, Mont., '73,	Meriden.
Tracey, William Joseph,	Univ. N. Y., '89,	Norwalk.
Treadway, William A. Buck- ingham,	Univ. Mich., '83,	Stamford.
Treadwell, Oliver Ferd., B.A.,		
Yale, '62,	Yale, '65,	Hamden.
Tudor, Mary Starr,	{ Women's Med.	
	{ Col. Phila., '93,	So. Windsor.
Tukey, Frank Martin, B.A.,		
Bowdoin, '91,	Harvard, '94,	Bridgeport.
Turner, Sylvester Wooster,		
B.A., Yale, '42,	Yale, '46,	Chester.
Tuttle, Albert Lake,	Albany, '88,	Bridgeport.
Tuttle, Charles Alling, Ph.B.,		
Yale, '88,	Yale, '91,	New Haven.
Tuttle, Frank Benjamin,	Yale, '63,	Naugatuck.
Van Vleet, Peter P.,	Bellevue, '69,	Stamford.
Varno, Arthur Joel,	P. & S., Balt., '92,	Branford.
Varno, Henry G.,	P. & S., Balt., '82,	Thomp'ville.
Verdi, William Francis,	Yale, '94,	New Haven.
Voorhes, Charles DeWitt,	Univ. N. Y., '89,	Groton.
Wade, John Alexander,	Bellevue, '93,	Danbury.
Waite, Frank Louis,	Bellevue, '88,	Hartford.
Walsh, Frederick William,	P. & S., Balt., '84,	Rockville.
Warner, Abner Spicer, A.B.,		
Dartmouth, '42,	Dartmouth, '48,	Wethersfield.
Washburn, Nathaniel P, Ph.B.,		
Yale, '71,	Univ. N. Y., '91,	Stamford.
Waters, John Bradford,	Univ. Vt., '90,	Hartford.
Weed, Willis Edward,	P. & S., N. Y., '83,	Ridgefield.
Weir, Janet Marshall,	{ Queen's Un. King- ston, Ont., '91,	Hartford.

Name.	Medical Graduation.	P. O. Address.
Watson, Wilbur Seymour,	L. I. Col. Hosp., '87,	Danbury.
Webb, Daniel Meigs, B.A., Yale, '46,	Yale. '49,	Madison.
Welch, Edward Hubbard,	Yale. '76,	W. Winsted.
Welch, George Kellogg,	P. & S., N. Y., '78,	Hartford.
Welch, William Collins,	Yale. '77,	New Haven.
Weldon, John,	Univ. N. Y., '83,	Willimantic.
Weldon, Thomas Henry,	Univ. N. Y., '83,	S. M'chester.
Wellington, William Winthrop,	Univ. Vt., '89,	Terryville.
Wheeler, Franklin, B.A., Yale, '47; M.A., Yale, '67,	P. & S., N. Y., '52,	Farmington.
Wheeler, Frank Henry, B.A., Yale, '80,	Yale. '82,	New Haven.
White, Benjamin Franklin,	L. I. Col. Hosp., '86,	Bridgeport.
White, Frederick Olin,	Yale. '73,	New Haven.
White, Moses Clark, B.A., Wes- leyan, '45, M.A., Yale,	Yale. '54,	New Haven.
White, Robert Creighton,	Univ. Vt., '89,	Willimantic.
Whiton, Francis Henry,	Dartmouth, '72,	Manchester.
Whittemore, Frank Hamilton,	Bellevue, '74,	New Haven.
Wiggin, Frederick Holme,	Bellevue, '77,	Litchfield.
Wilson, Frederick Morse, A.B., Colby, '71,	Harvard, '75,	Bridgeport.
Wilson, John Joseph,	P. & S., Balt., '86,	Bristol.
Wilson, Samuel Allen,	Yale. '52,	Windsor.
Wilson, William Hugh,	P. & S., N. Y., '77,	Middletown.
Wilson, William Patrick,	P. & S., Balt., '90,	Wallingford.
Wilson, William Virgil,	Yale. '67,	West Haven.
Winchell, Alverd Ezra, A.B., Wesleyan, '57,	P. & S., N. Y., '65,	New Haven.
Witter, William,	Yale. '65,	Norwich.
Wolff, Arthur Jacob,	{ Tex. Med. Col., '76,	Hartford.
	{ Bellevue, '83,	
Wood, William Francis,	P. & S., Balt., '93,	Danbury.
Woods, George Lyman,	Bowdoin, Me., '79,	Collinsville.
Wooster, Charles Morris,	Univ. N. Y., '79,	Tariffville.
Wordin, Nathaniel Eugene, B.A., Yale, '70; Yale, M.A., '72,	Jefferson, '73,	Bridgeport.
Worthington, Albert Brownell,	Yale. '47,	M. Haddam.
Wright, Frank Walden,	Bellevue, '80,	New Haven.
Wright, John Winthrop, A.B., Amherst, '77,	Univ. N. Y., '80,	Bridgeport.
Wright, Theodore Goodelle,	Univ. N. Y., '65,	Plainville.
Wurtemberg, William Charles, Ph.B., Yale, '89,	Yale. '93,	New Haven.
Zink, Walter,	Wurtzburg,	Branford.

Members noticing any errors or omissions in any part of their record will please inform the Secretary for correction in future lists.

DEPARTMENT OF MEDICINE,

(YALE MEDICAL SCHOOL.)

FACULTY.

REV. TIMOTHY DWIGHT, D.D., LL.D., PRESIDENT.

MOSES C. WHITE, M.D., Professor of Pathology.

CHARLES A. LINDSLEY, M.D., Professor of the Theory and Practice of Medicine.

WILLIAM H. CARMALT, M.D., Professor of the Principles and Practice of Surgery.

JAMES CAMPBELL, M.D., Professor of Obstetrics and Diseases of Women and Children.

THOMAS H. RUSSELL, M.D., Professor of Clinical Surgery and Clinical Anatomy.

HERBERT E. SMITH, M.D., Professor of Chemistry, and Dean.

OLIVER T. OSBORNE, M.D., Professor of Materia Medica and Therapeutics.

HARRY B. FERRIS, M.D., Professor of Anatomy.

GRAHAM LUSK, Ph.D., Professor of Physiology.

LOUIS S. DEFORREST, M.D., Clinical Professor of Medicine.

HENRY L. SWAIN, M.D., Clinical Professor of Diseases of the Throat and Ear.

BENJAMIN AUSTIN CHENEY, M.D., Assistant Professor of Obstetrics and the Diseases of Women and Children.

OTHER INSTRUCTORS.

PROFESSOR WILLIAM H. BREWER, Ph.D., Lecturer on Sanitary Science and Public Health.

HENRY P. STEARNS, M.D., Lecturer on Insanity.

SAMUEL B. ST. JOHN, M.D., Lecturer on Ophthalmology.

HENRY FLEISCHNER, M.D., Lecturer on Dermatology and Clinical Medicine.

CHARLES J. FOOTE, M.D., Instructor in Clinical Medicine.

ARTHUR N. ALLING, M.D., Instructor in Ophthalmology.

LOUIS B. BISHOP, M.D., Assistant in the Medical Clinic.

CHARLES A. TUTTLE, M.D., Lecturer on Orthopaedic Surgery.

LEONARD W. BACON, JR., M.D., Assistant in the Surgical Clinic.

WARREN A. SPALDING, Demonstrator of Pharmacy.

RALPH A. McDONNELL, M.D., Clinical Assistant in Dermatology.

ROBERT E. PECK, M.D., Assistant in the Medical Clinic.

CHARLES J. BARTLETT, M.D., Instructor in Pathology.

JAMES A. MOORE, M.D., Assistant in the Medical Clinic.

WILLIAM H. PARKER, B.S., Assistant in Chemistry.

CHAUNCEY S. LAMB, M.D., Assistant in Surgical Clinic.

HARRY A. ELCOCK, M.D., Assistant in Eye and Ear Clinic.

AMBROSE K. BRENNAN, M.D., Assistant in Obstetrics and Pediatrics.

FREDERICK N. SPERRY, M.D., Assistant in the Medical Clinic.

WILLIAM F. VERDI, M.D., Assistant in Obstetrics and Gynecology.

TERMS OF ADMISSION.

Candidates for admission to the first year of the course leading to the degree of Doctor of Medicine must present satisfactory testimonials of moral character from former instructors or physicians in good standing, and must pass the matriculation examinations. (See Annual Announcement.) But these examinations are not required from candidates who have received degrees in arts or science, nor from those presenting certificates from the proper officer showing that they have successfully prosecuted the subjects of the examinations at some college, high school, academy, or preparatory school, approved by the Faculty as maintaining a satisfactory standard.

